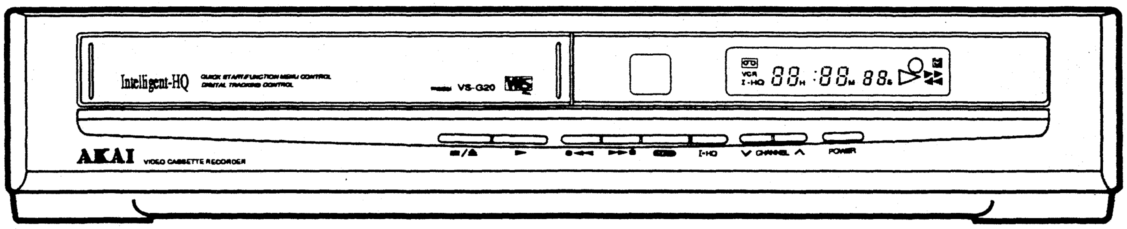
VS-G20,21
VS-G23,24,25

AKAI SERVICE MANUAL


Intelligent-HQ
VS-G20
VHS
AKAI VIDEO CASSETTE RECORDER
I-HQ
CHANNEL
POWER

MODEL VS-G20EK

HQ HIGH QUALITY VHS PAL VIDEO Plus+

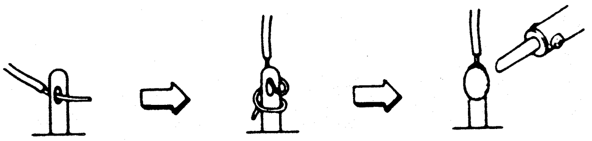
VIDEO CASSETTE RECORDER

MODEL VS-G20EDG/EK/EM/EO/EOH
MODEL VS-G21EOH
MODEL VS-G23EOH
MODEL VS-G24EK/EOG
MODEL VS-G25EOG-V

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol are critical for safety. Replace them only with the parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with the specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (insulating barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap the ends of the wires securely around the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15 µF capacitor, under the unit's normal working conditions.

The leakage-current should be less than 0.5 mA rms AC.

The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 M ohms.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can. Please leave them at an appropriate depot.

★ SPECIFICATIONS

Format	
EK	VHS standard
EDG/EM/EO/EOH/ EOG/EOG-V	VHS standard (PAL, MESECAM)
Video recording system	Rotary, slant azimuth two-head helical scan system
Rotary heads	2 video heads
RF input	
EDG	System D, K VHF ch1 - 12, UHF ch 21 - 69 System B, G VHF ch 2 -12, UHF ch 21 - 69 Cable ch S1'- S3', S1 - S20
EK	System I, UHF ch 21 - 69
EM	System B, G (PAL, SECAM) VHF ch 2 -12, UHF ch 21 - 69
EO	System B, G (PAL, SECAM) VHF ch 2 - 4, 5 - 12 UHF ch 21 - 69 Cable ch S1' -S3', S1 - S20
EOH/EOG/EOG-V	System B, G (PAL, SECAM) VHF ch 2 - 4, 5 - 12 UHF ch 21 - 69 Cable ch S1' - S3', S1 - S41
RF output	
EDG	System K/G type modulation UHF ch 30 - 39 adjustable (preset ch 36)
EM	System B type modulation VHF ch 3, 4 switchable (preset ch 4)
EK	System I type modulation UHF ch 30 - 39 adjustable (preset ch 36)
EO/EOH/EOG/EOG-V	System G type modulation UHF ch 30 - 39 adjustable (preset ch 36)
Recording (line input)	
EK	PAL
EDG/EM/EO/EOH/ EOG/EOG-V/	PAL, SECAM (recorded as MESECAM)
Playback (line output)	
EK	PAL
EDG/EO/EOH/ EOG/EOG-V	PAL, SECAM (MESECAM Tape)
EM	PAL, SECAM (MESECAM tape) NTSC 4.43 (NTSC tape) Simulated PAL (NTSC tape playback only)

Video	
Line input level	0.5 - 2.0 Vp-p/75 ohms unbalanced
Line output level	1.0 Vp-p/75 ohms, unbalanced
S/N ratio	More than 45dB
Horizontal resolution	More than 250 lines
Audio	
Line input level	−6 dBs/50 k ohms, unbalanced
Line output level	−6 dBs/1 k ohms, unbalanced
S/N ratio	More than 40 dB
Frequency response	70 - 10,000 Hz
Recording/playback time	240 min. with E-240 cassette
NTSC playback (EM)	160 min. with T-160 cassette
Tape speed	23.39 mm/sec.
NTSC playback (EM)	33.35 mm/sec.
Quick finder	Approx. 9 times normal speed
NTSC playback (EM)	Approx. 7 times normal speed
FF, REW time	Approx. 5 min. with E-180 cassette
Timer	8 programmes /1 year
Clock reference	Quartz crystal
Display	TV screen & FL (Tape counter, Timer etc.)
Power requirements	
EK	240 V AC, 50 Hz
EDG	220 V AC, 50 Hz
EM	110 -127 / 220 - 240 V AC 50/60 Hz
EO/EOH/EOG/EOG-V	220 - 230 V AC, 50 Hz
Power consumption	
EK/EM	36 W
EDG/EO/EOG	37 W
EOH/EOG-V	38 W
Operating temperature	5°C - 40°C
Dimensions	
G20EDG/EM/EOH G21EOH	425(W) x 82(H) x 314(D) mm
G20EK/EO, G23EOH G24EK/EOG G25EOG-V	426(W) x 82(H) x 313(D) mm
Weight	5.0 kg

Standard accessories

Antenna cable	1	
Remote control unit	1	
Batteries for remote control	2	
Operator's manual	1	
AC plug adaptor(S-16115)	1	[VS-G20EM (Y7) only]

0 dBs = 0.775 V

* For improvement purposes, specifications and design are subject to change without notice.

* VIDEO PLUS AND PLUSCODE ARE TRADEMARKS OF GEMSTAR DEVELOPMENT CORP. VIDEO PLUS SYSTEM IS MANUFACTURED UNDER LICENCE FROM GEMSTAR DEVELOPMENT CORPORATION.

★ INFORMATION

SYMBOLS OF MODEL NAMES FOR PRIMARY DESTINATION

The symbols below indicate the destination of each unit.

Symbol	Power Classification	Principal Destination	TV System	
			Color	Broadcast
EA	S	Australia	PAL	B,G
ED	E	China	PAL	D
EDG	E	East Europe	PAL	D,K
EDI	E	China, Hong Kong	PAL	D,K, I
EG	E	Spain, Nothern Europe, Other	PAL	B,G
	Y7	Saudi Arabia		
EK	B	U.K	PAL	I
	Y1	Hong Kong		
EM	E	Middle East	PAL	B,G
	Y7	Saudi Arabia		
EO	E	Holland, Switzerland, Nothern Europe	PAL	B,G
	V	Italy		
EOH	E	Holland, Belgium	PAL	B,G
	V	Italy		
EOG	V	Germany	PAL	B,G
ES	E	South Africa, Ireland, Hong kong	PAL	I
EV	E	South-East Asia	PAL	B,G
	U	Middle East, South -East Asia		
	Y1	New Zealand		
	Y7	Saudi Arabia		
EZ	S	New Zealand	PAL	B,G
EGN	E	Middle East	PAL,NTSC	B,G
	Y7	Saudi Arabia		
S	E	France	SECAM	L
SK	E	Latin America, Oceania, SECAM-OIRT	SECAM	K,K1
SEG	E	France, Switzerland	SECAM, PAL	L,B,G
U	A	U.S.A	NTSC	M
	C	Canada		
UM	U	Latin America	NTSC	M
J	J	Japan	NTSC	M

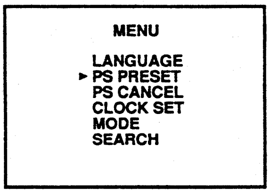
MULTI-FUNCTION MENU MODE

This is an on-screen display of the various modes you can programme via the TV screen.

LANGUAGE : To select a language for the on-screen displays.
PS PRESET : To preset TV stations.
PS CANCEL : To cancel preset TV stations.
CLOCK SET : To set the clock.
MODE : To select the BLANK SKIP PLAY, AV MUTE, ON SCREEN DISPLAY and VIDEO SYSTEM modes (VIDEO SYSTEM selection is not available on some models).
SEARCH : To select the BLANK SEARCH and INTRO SCAN modes.

If necessary, refer to the respective sections in the operator's manual for detailed information.

1. Press the "MENU" button on the remote control unit.
   The menu list screen will be displayed on the TV screen.
   The arrow indicator is automatically set to the "CLOCK SET" position (if the clock has been set already, arrow indicator will be set to the "MODE" position).



MENU

LANGUAGE
▸ PS PRESET
PS CANCEL
CLOCK SET
MODE
SEARCH

2. Select the desired mode by setting the arrow indicator to the appropriate position with cursor "∧" button.
   The arrow indicator moves upwards each time the button is pressed. Pressing the cursor "∨" button will move the arrow indicator downwards.

3. Press the "OK" button.
   The selected function screen will be displayed on the TV screen.

∗ Press the "MENU" button again to return to the normal screen.

MANUAL TRACKING/PICTURE/STABILITY ADJUSTMENT

The VCR can be adjusted for tracking and picture sharpness anytime it is in the playback mode with the remote control unit.

- **Manual tracking control**
  Press the "<" or ">" cursor botton repeatedly until the picture is clear. During manual tracking adjustment, the tracking position is shown on the TV screen, this will disappear automatically after adjustment has been completed. Use this function when performing the A/C HEAD phase adjustment.

- **Picture sharpness control**
  Press the "∧" button repeatedly to sharpen the picture or press the "∨" button to soften the picture.

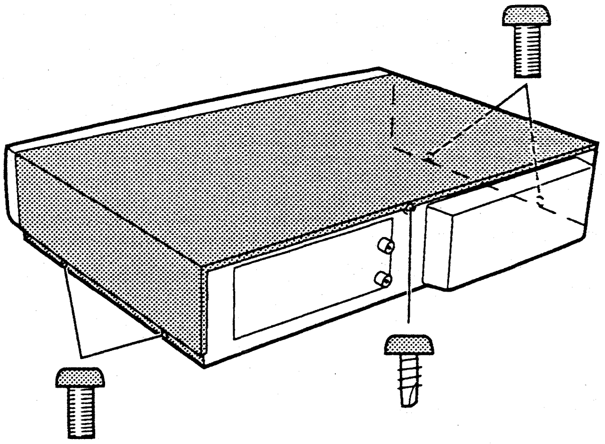
- **Stability adjustment**

1) To correct picture shake during the slow motion or still mode:
   Press "∧" or "∨" cursor button until the picture shake is corrected.
2) To correct tracking during the still mode:
   Press the "<" or ">" cursor button repeatedly until the picture is clear.

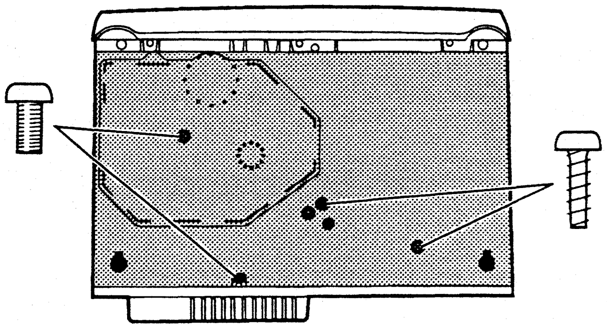
I. DISASSEMBLY

In case of trouble,etc., necessitating dismantling, please dismantle in the order shown in the illustrations.
Reassemble in the reverse order.
When reattaching the FRONT PANEL, hold the cassette loading slot door in the upright (open) position.

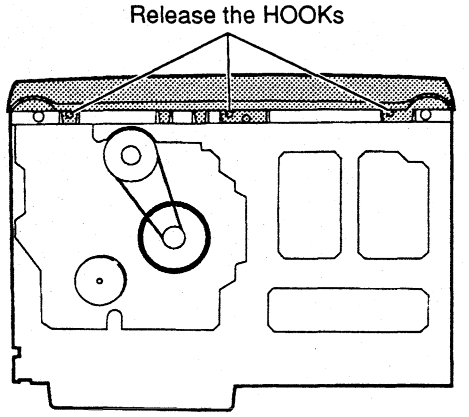
1. Removal of UPPER COVER

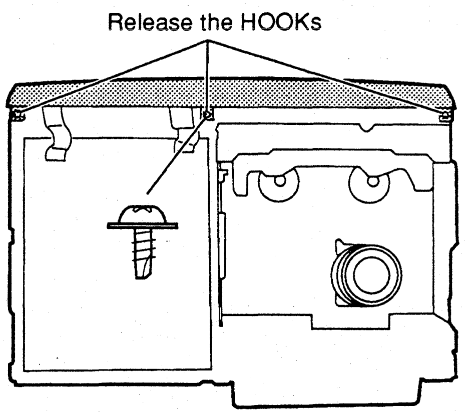


2. Removal of BOTTOM COVER

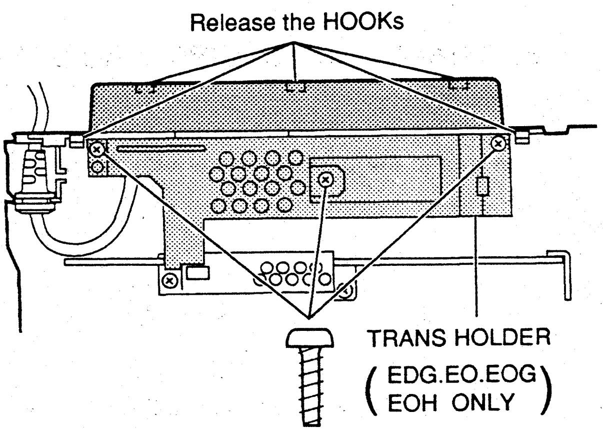


3. Removal of FRONT PANEL


Release the HOOKs


Release the HOOKs

4. Removal of TRANS COVER


Release the HOOKs
TRANS HOLDER
(EDG.EO.EOG EOH ONLY)

II. PRINCIPAL PARTS LOCATION

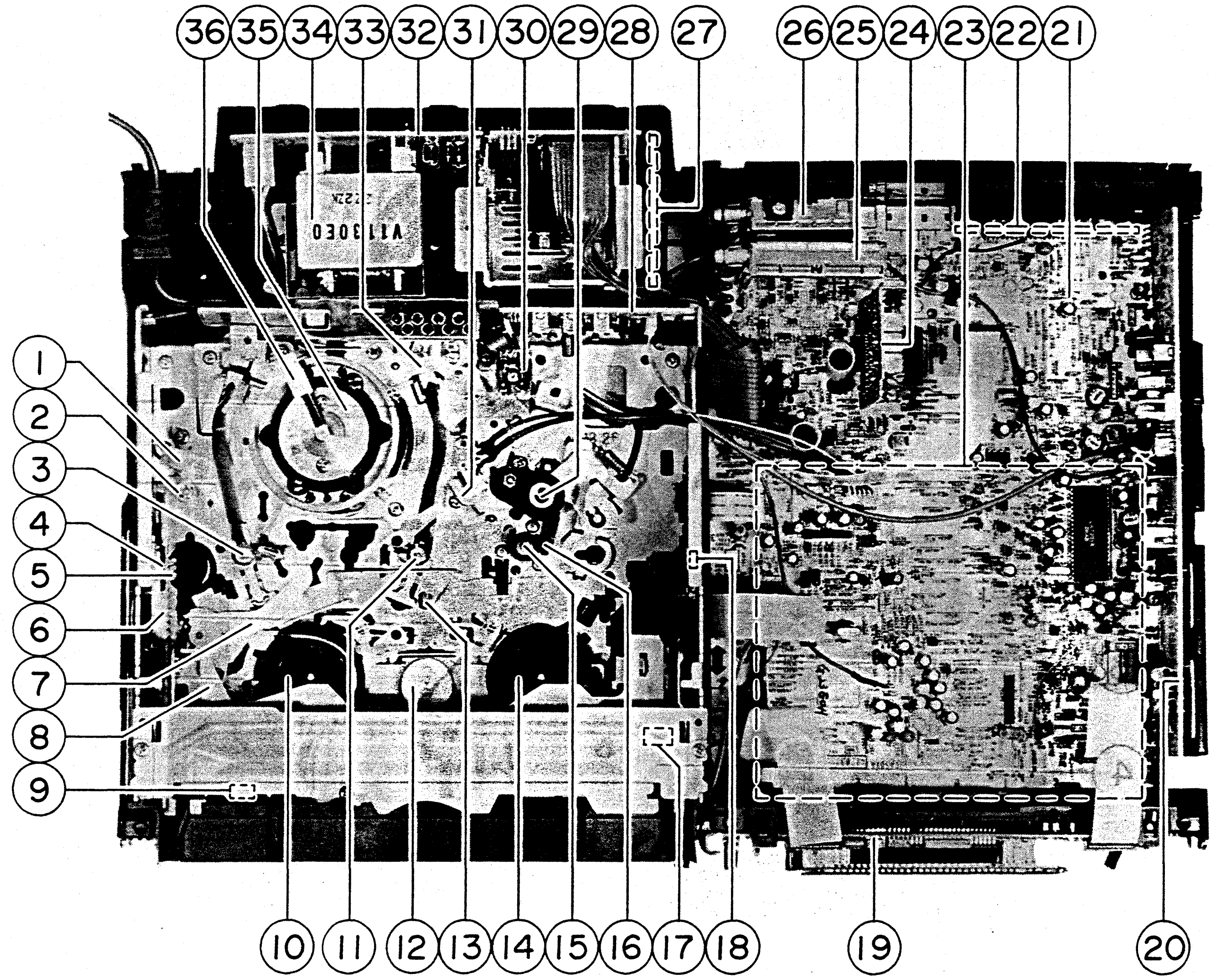


Fig. 2-1 Top view

1. FULL TRACK ERASE HEAD
2. SUPPLY TAPE GUIDE
3. SUPPLY LOADING LEADER
4. SENSOR (S) PCB (END SENSOR)
5. FRONT LOADING GEAR
6. FRONT LOADING SLIDER
7. TENSION ARM BLOCK
8. CASSETTE LOAD BLK
9. REC SAFETY SWITCH
10. SUPPLY REEL TABLE
11. TAKE UP LOADING LEADER
12. IDLER PART
13. SENSOR LED
14. TAKE UP REEL TABLE
15. CAPSTAN MOTOR
16. REVIEW ARM PART
17. S-VHS TAPE DETECT SWITCH
18. SENSOR (T) (START SENSOR)
19. OPERATION (B) PCB
20. MAIN (B) PCB
21. MAIN (A) PCB
22. SUB PCB (EM only)
23. VPS PCB (EOG only)
    VPST/PDC PCB (EOG-V only)
24. VIF UNIT
25. TUNER UNIT
26. RF CONVERTOR UNIT
27. POWER SUPPLY (2) PCB (EM, EOG-V only)
28. PRE AMP PCB
29. PINCH ROLLER BLOCK
30. DIODE PCB (EM, EO, EOG, EOH only)
31. AUDIO/CONTROL/S.ERASE HEAD
32. POWER SUPPLY (1) PCB (EM, EOG-V only)
    POWER SUPPLY PCB (except EM, EOG-V)
33. HEAD CLEANER BLOCK
34. POWER TRANSFORMER
35. VIDEO HEAD DRUM BLOCK
36. EARTH BRUSH PART

* Photograph employed on this page is of model VS-G23EOH

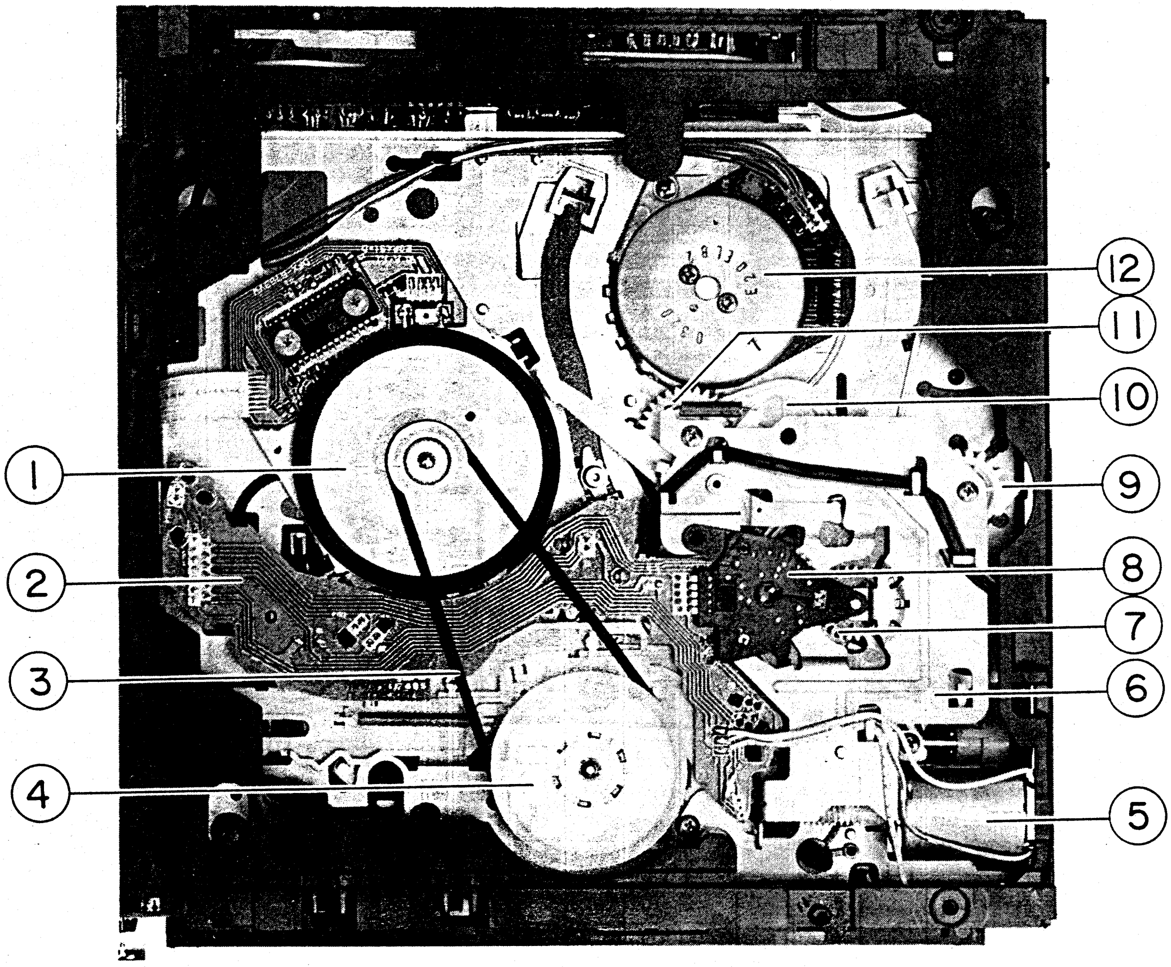


Fig. 2-2 Bottom view

1. CAPSTAN MOTOR BLOCK
2. SENSOR PCB
3. CAPSTAN BELT
4. CLUTCH DISK PART
5. LOADING MOTOR
6. LOADING DRIVE BLOCK
7. CAM SLIDER GEAR
8. MODE SELECT SWITCH
9. FRONT LOADING GEAR
10. TOGGLE (S) GEAR BLOCK
11. TOGGLE (T) GEAR BLOCK
12. DRUM MOTOR BLOCK

III. MAIN COMPONENTS REPLACEMENT

3-1.REMOVAL OF THE EJECTOR BLOCK

Set the loading mechanism to the "EJECT" position by pressing the EJECT button. Then disconnect the AC power plug from the AC socket before proceeding.

3-1-1. Removal of the CASSETTE LOAD BLK

1) Remove the two Ⓐ screws on the UPPER PLATE, as shown in Fig. 3-1 then remove the UPPER PLATE.
2) Lift up the FRONT GUIDE while pushing the CASSETTE LOAD BLK backwards, then remove the FRONT GUIDE.
3) Gently lift up the front side of the CASSETTE LOAD BLK, then remove it. To avoid damaging the pins of the CASSETTE LOAD BLK and the groove of the MECHA.FRAME, do not use excessive force when removing the CASSETTE LOAD BLK.

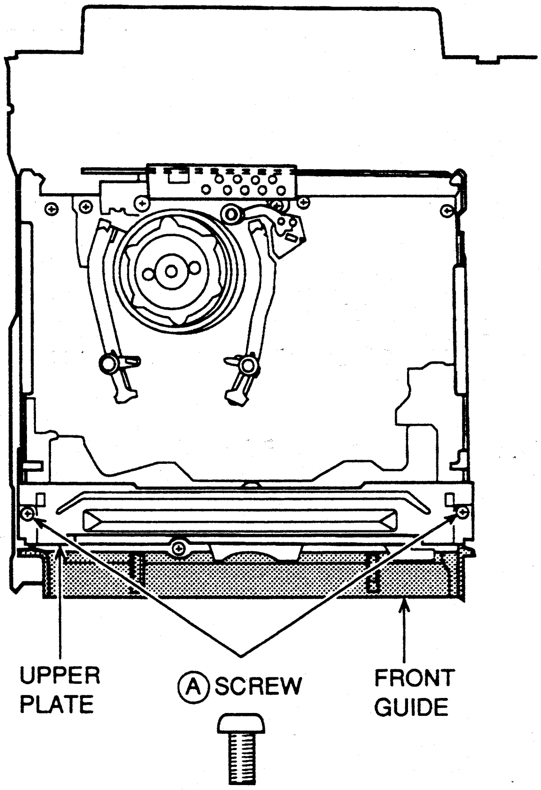


Fig. 3-1

3-1-2. Removal of the LOADING ARM BLK

1) Release the stopper on the right side end of the LOADING ARM BLK's shaft (Refer to Fig. 3-2) by pressing the stopper tab with a flat head (—) screwdriver. Then remove the shaft's right end from the bracket.

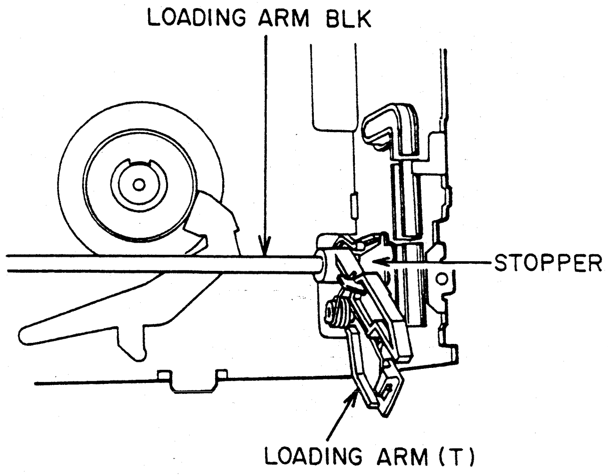


Fig. 3-2

2) Hold the LOADING ARM (T) and turn it 30 degrees clockwise, then pull out the shaft's left end from the bracket. Take special care when removing it to avoid damaging the JOINT and EJECT GEARs. (Refer Fig. 3-3)

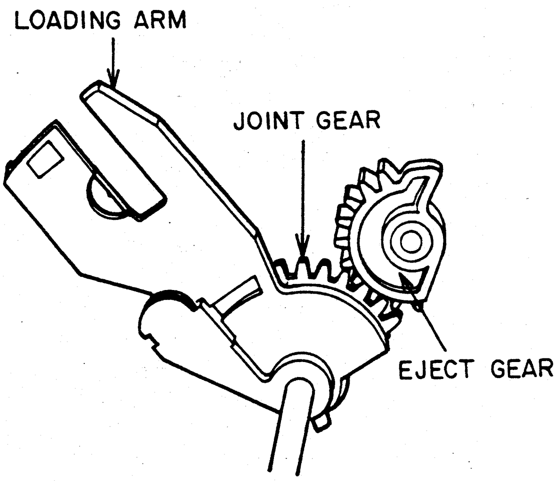


Fig. 3-3

3-2. REMOVAL OF THE SENSOR PC BOARD

* Before proceeding with removal of the SENSOR PCB, the loading mechanism must be set to the "unloaded" position (the position where the CAM SLIDER GEAR's groove mark is visible through the hole of the MODE SELECT SW.) as shown in Fig. 3-4.

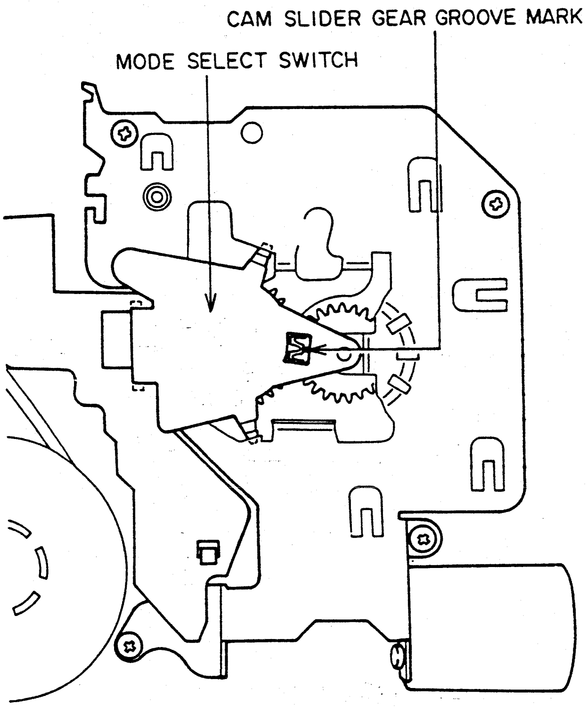


Fig. 3-4

To set the loading mechanism to the "unloaded" position, proceed with one of the following procedures.

1) Insert a video cassette tape which you no longer need. Once the tape has been loaded or has entered the "play" mode, press the POWER button to turn the power off. Disconnect the AC power plug from the AC socket after the cassette tape has been unloaded.
2) Remove the UPPER PLATE, FRONT GUIDE and CASSETTE LOAD BLK. (Refer to 3-1-1. Removal of the CASSETTE LOAD BLK.)
   Plug in the AC power cord. The LOADING ARM BLK will move backward and forward continuously. With your fingers, cover and hold both the SENSOR (S) and SENSOR (T) at the same time when the LOADING ARM BLK is in the backward position. The unit will enter the "play" mode without a cassette tape. Then release your fingers from both the sensors at the same time. After about 10 seconds (when the PINCH ROLLER is disengaged from the CAPSTAN and the SUPPLY REEL stops rotating), press the POWER button on the OPERATION PCB. The mechanism will be set to the "tape unloaded" position a few seconds later.
   Disconnect the AC power plug from the AC power socket.

3-2-1. Removal of the MODE SELECT SWITCH

1) Release the two Ⓐ stoppers as shown in Fig. 3-5.

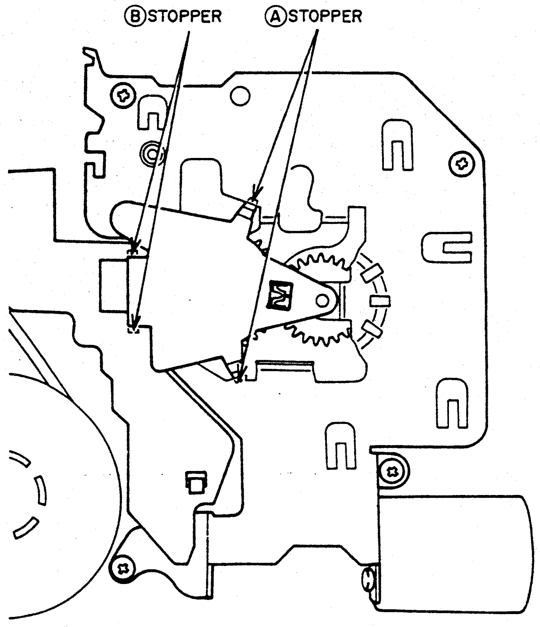


Fig. 3-5

2) Release the two Ⓑ stoppers carefully while pulling up the MODE SELECT SWITCH. Then remove the MODE SELECT SWITCH. (Do not damage the pins of the MODE SELECT SWITCH or the P1 connector on the SENSOR PCB).

3-2-2. Removal of the SENSOR PC Board

1) Disconnect the connector P303 on the MAIN (A) PCB.
2) Remove the capstan belt.
3) Release the Ⓐ, Ⓑ and Ⓒ stoppers as shown in Fig. 3-6. Then remove the SENSOR PCB.

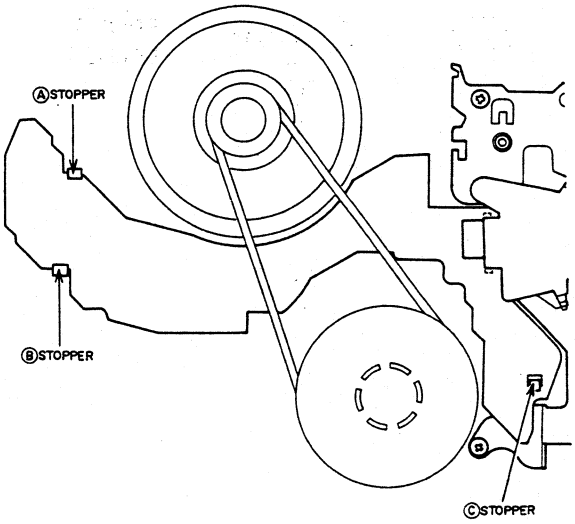


Fig. 3-6

3-3. REMOVAL OF THE LOADING DRIVE BLK

Set the loading mechanism to the "unloaded" position as well as 3-2 (REMOVAL OF THE SENSOR PC BOARD). However, this time, to avoid damaging the tape and mechanical parts, refer to 3-2, ∗ 2) only.

1) Remove the MODE SELECT SWITCH (refer to 3-2-1 Removal of the MODE SELECT SWITCH).
2) Unhook the five wires from each tab. Two wires from the SENSOR (S), two wires from the LOADING MOTOR and one wire from the REC SAFETY SWITCH.
3) Remove the Ⓐ, Ⓑ, Ⓒ and Ⓓ screws, then remove the LOADING DRIVE BLK as shown in Fig. 3-7.

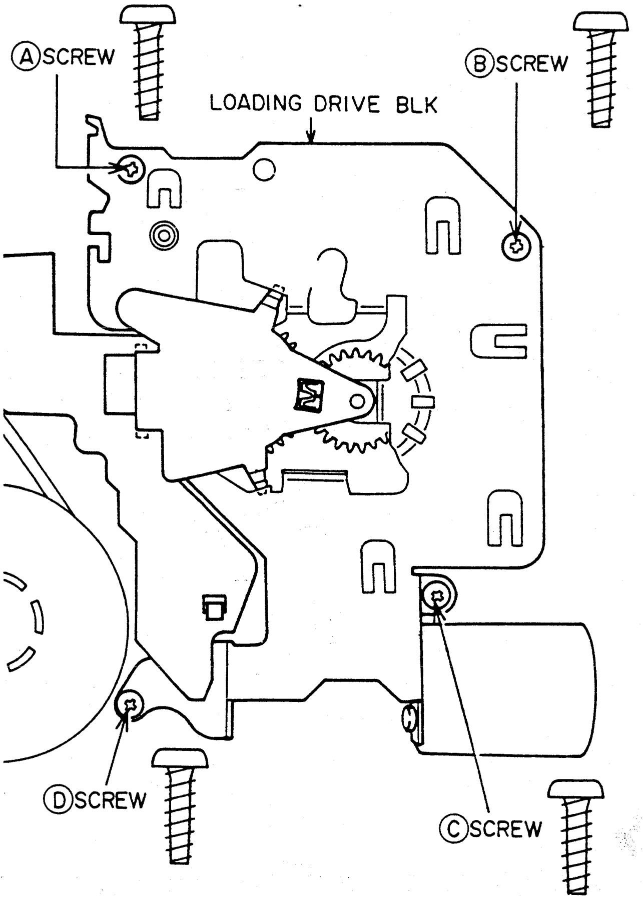

ⒶSCREW
ⒷSCREW
LOADING DRIVE BLK
ⒹSCREW
ⒸSCREW

Fig. 3-7

3-4. REASSEMBLY OF THE LOADING MECHANISM BLK

3-4-1. Position of the TOGGLE GEARs (T) and (S)

1) Set the TOGGLE GEARs (T) and (S) to the unloaded position with your fingers. Align the Ⓐ mark on TOGGLE GEAR (S) with the Ⓐ hole of TOGGLE GEAR (T) as shown in Fig. 3-8.

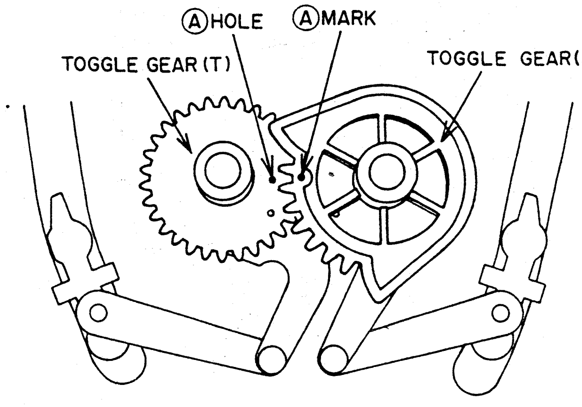

ⒶHOLE
ⒶMARK
TOGGLE GEAR(T)
TOGGLE GEAR(S)

Fig. 3-8

3-4-2. Installation of the CAM SLIDER GEAR & FRONT LOADING GEAR

1) Attach the WORM WHEEL GEAR as shown in Fig. 3-9.

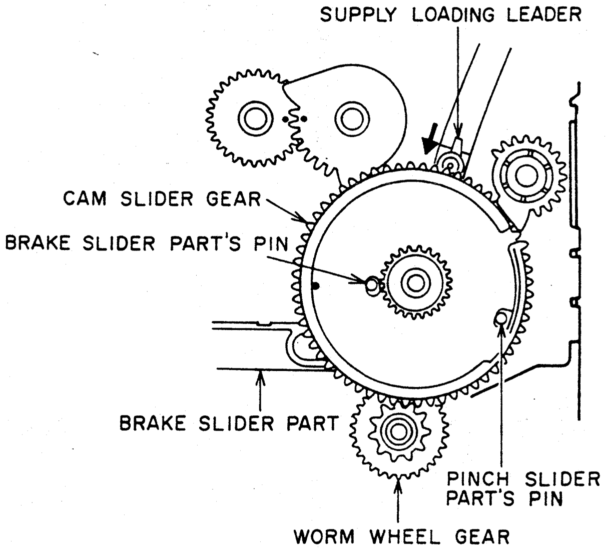

SUPPLY LOADING LEADER
CAM SLIDER GEAR
BRAKE SLIDER PART'S PIN
BRAKE SLIDER PART
PINCH SLIDER PART'S PIN
WORM WHEEL GEAR

Fig. 3-9

2) Set the CAM SLIDER GEAR and adjust the position of the BRAKE SLIDER PART and PINCH SLIDER PART so that both pins appear through the holes on the CAM SLIDER GEAR as shown in Fig. 3-9. When inserting the CAM SLIDER GEAR onto its shaft, press the SUPPLY LOADING LEADER slightly in the direction of the arrow to make installation easy.

3) Attach the FRONT LOADING GEAR as shown in Fig. 3-10 and align the Ⓑ mark on the FRONT LOADING GEAR with the Ⓑ hole of the FRONT LOADING SLIDER as shown in Fig. 3-11.

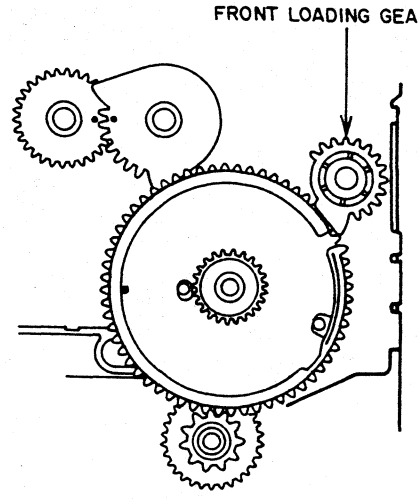

FRONT LOADING GEAR

Fig. 3-10

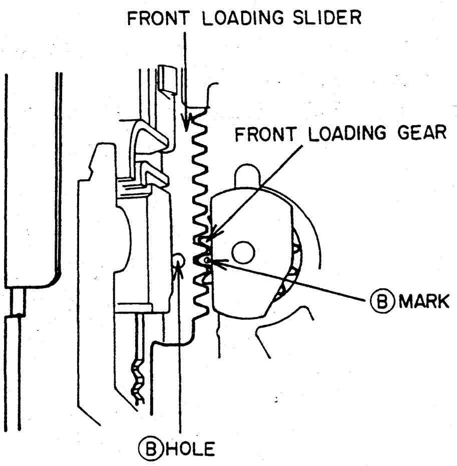

FRONT LOADING SLIDER
FRONT LOADING GEAR
ⒷMARK
ⒷHOLE

Fig. 3-11

3-4-3. Confirmation of the position of the EJECT GEAR

1) Confirm that the EJECT GEAR is in the correct position as shown in Fig. 3-12.

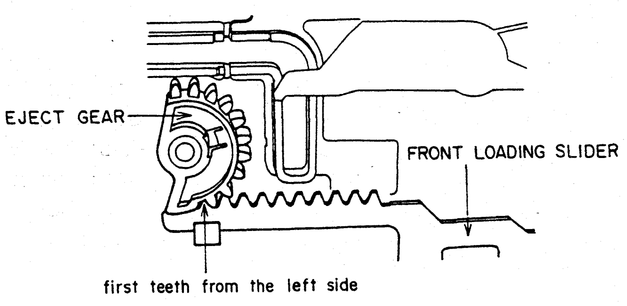

EJECT GEAR
FRONT LOADING SLIDER
first teeth from the left side

Fig. 3-12

2) Install the LOADING DRIVE BLK as shown in Fig.3-13.

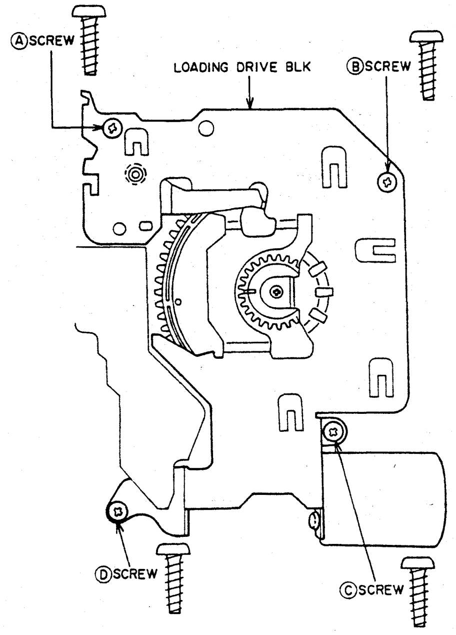

ⒶSCREW
LOADING DRIVE BLK
ⒷSCREW
ⒹSCREW
ⒸSCREW

Fig. 3-13

3-4-4. Installation of the MODE SELECT SWITCH

1) Set the MODE SELECT SWITCH's gear, so that the Ⓒ mark is in the center of the Ⓒ hole as shown in Fig. 3-14.

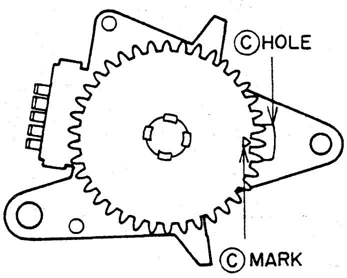


Fig. 3-14

2) Attach the MODE SELECT SWITCH to the LOADING DRIVE BLK and align the hollow of the gear's tooth (reverse side of the Ⓒ mark) with the Ⓒ groove of the CAM SLIDER GEAR as shown in Fig. 3-15.

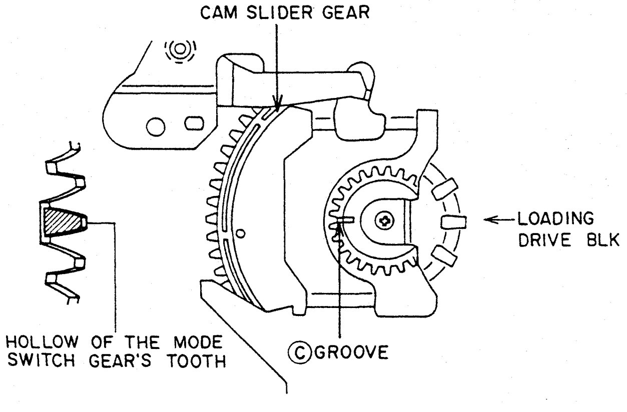

CAM SLIDER GEAR
LOADING DRIVE BLK
HOLLOW OF THE MODE SWITCH GEAR'S TOOTH
ⒸGROOVE

Fig. 3-15

3-4-5. Installation of the LOADING ARM BLK

1) While covering SENSOR (S) with your fingers, connect the AC power plug to the AC socket and then press the "EJECT" button on the OPERATION PCB. The FRONT LOADING SLIDER will reach the "EJECT" position. Then disconnect the AC power plug from the AC socket before you release your fingers from SENSOR (S).
2) Install the LOADING ARM BLK in the reverse order of 3-1-2 (Removal of the LOADING ARM BLK). Position the EJECT GEAR and the JOINT GEAR as shown in Fig. 3-16.

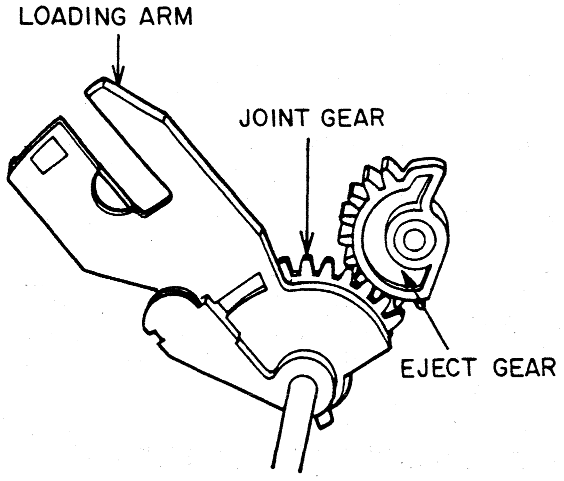


Fig. 3-16

3-4-6. Installation of the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE

1) Attach the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE in the reverse order of 3-1-1 (Removal of the CASSETTE LOAD BLK).
2) Insert a video cassette tape and confirm that the loading mechanism operates properly.

3-5. REPLACEMENT OF THE PINCH ROLLER PART

1) Remove the Ⓐ screw, then remove the PINCH ROLLER part, as shown in fig. 3-17
2) Set the pinch roller so that white plastic spacer side faces chassis when replacing. Then tighten the Ⓐ screw.

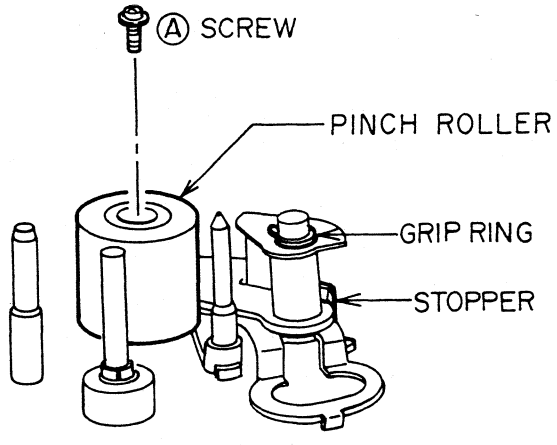


Fig. 3-17

3-6. REPLACEMENT OF THE IDLER PART AND REVIEW BRAKE PART

1) Remove the CASSETTE LOAD BLOCK & LOADING ARM BLK. (refer to 3-1, REMOVAL OF THE EJECTOR BLOCK).
2) Release the stopper of IDLER PART as shown in Fig. 3-18, then remove it.

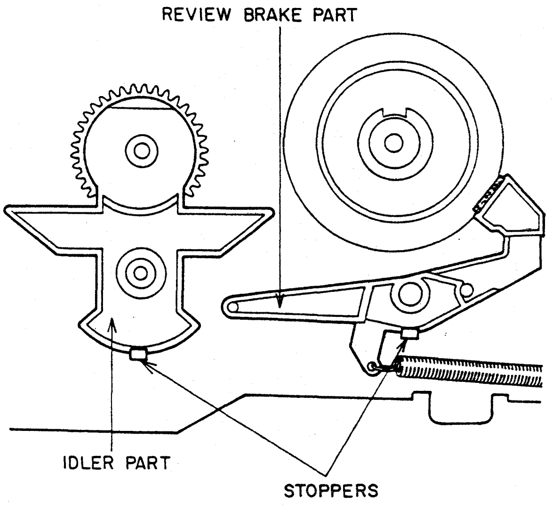


Fig. 3-18

3) Take off the review brake part spring, then release the stopper of the REVIEW BRAKE PART and remove it.
4) Reassemble the parts in the reverse order of steps 1) to 3).

3-7. REPLACEMENT OF THE UPPER DRUM

3-7-1. Removal of the UPPER DRUM

1) Remove one of the PRE AMP retaining screw and remove the EARTH BRUSH.
2) Unsolder the four relay leads and remove the two upper drum fixing screws as shown in Fig. 3-19.
3) Gently lift and remove the UPPER DRUM.

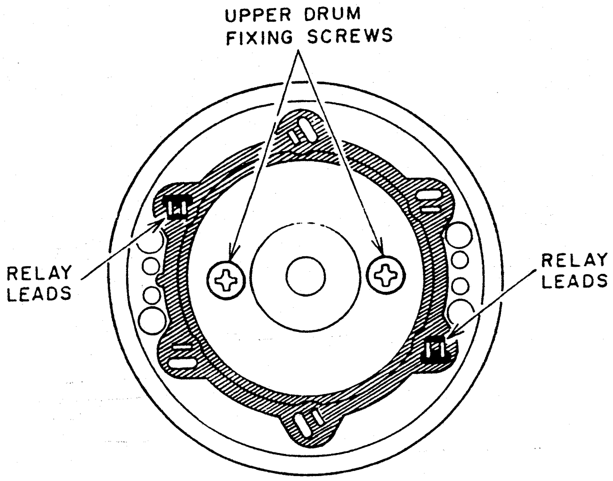


Fig. 3-19

3-7-2. Installation of the UPPER DRUM

1) Attach the UPPER DRUM to the LOWER DRUM ROTOR, so that the upper drum convex Ⓐ and lower drum rotor's white PCB side line up, as shown in Fig. 3-20.

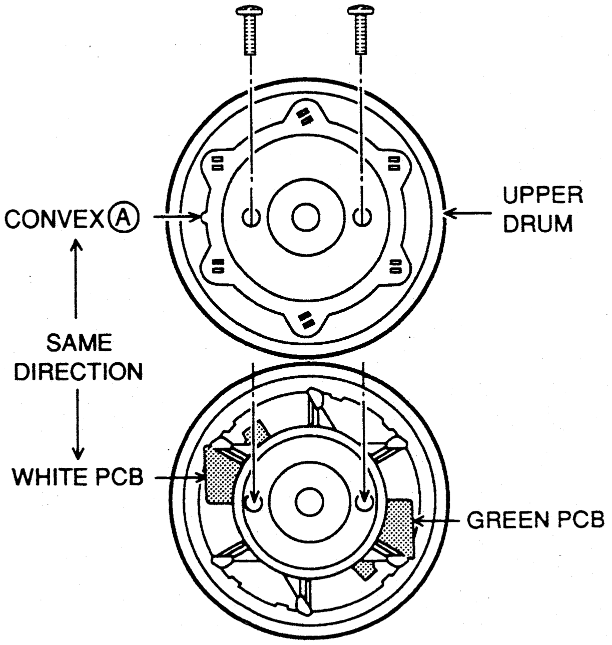


Fig. 3-20

NOTE: Because height precision is required for proper performance, and because head tips are fragile, the following points should be noted when replacing the UPPER DRUM BLOCK.

(a) Do not loosen the set screw on the collar preload.
(b) Before fixing, use alcohol to clean both surfaces where the upper drum and the rotary transformer meet.
(c) If the UPPER DRUM can not be inserted on to the shaft easily during installation, clean the hole in the UPPER DRUM with alcohol and put a little oil on the shaft.
(d) Make sure that the upper drum fixing screw holes, on the rotary transformer part, and the upper drum fixing screw penetration holes match exactly before inserting the fixing screws.
(e) Tighten the two upper drum fixing screws alternately and gradually.

3-7-3. After replacement

After replacement, the following adjustments are necessary for the proper performance.

1) Control head Phase adjustment (IV. MECHANICAL ADJUSTMENT 4-3-3.)
2) PB switching point adjustment. (V. ELECTRICAL ADJUSTMENT Step 1)
3) Video head REC current adjustment. (V. ELECTRICAL ADJUSTMENT Step 7)
4) ENV. DET (I-HQ) adjustment. (V. ELECTRICAL ADJUSTMENT Step 8)

3-8. DRUM MOTOR PC BOARD REPLACEMENT

1) Remove the two Ⓐ screws on the ROTARY PLATE and then remove it.
   Then disconnect the connector on the DRUM MOTOR PCB as shown.

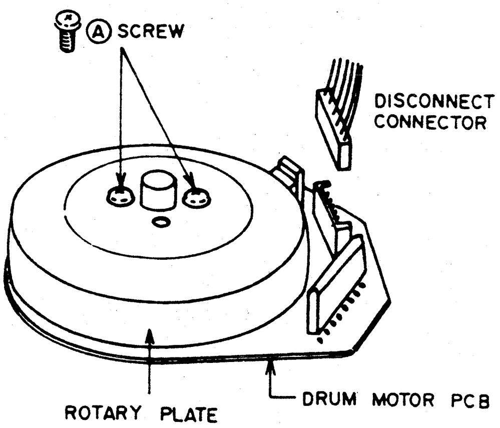


Fig. 3-21

2) Remove the three Ⓑ screws which retain the DRUM MOTOR PCB and replace it.

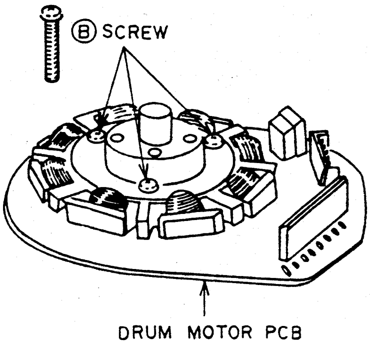


Fig. 3-22

3) Attach the ROTARY PLATE to the collar preload so that the rotary plate Ⓒ hole and collar preload Ⓓ hole line up

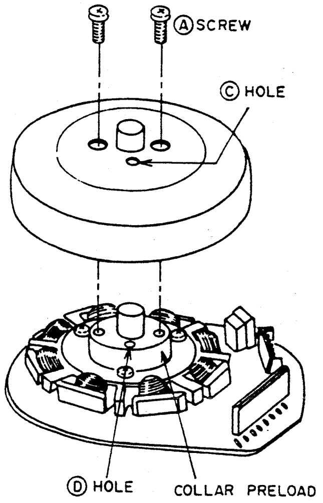


Fig. 3-23

4) After replacement, PB switching point adjustment (V. ELECTRICAL ADJUSTMENT Step 1) is necessary for the proper performance.

3-9. REMOVAL OF THE PRE AMP PCB

1) Remove the TRANS COVER if attached (refer to step 1-4).
2) Remove the Ⓐ screw and remove the EARTH BRUSH as shown in Fig. 3-24.

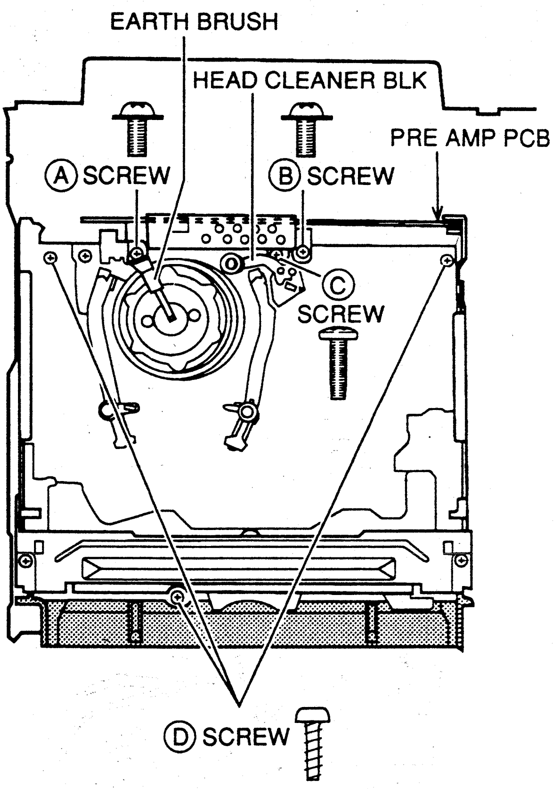


Fig. 3-24

3) Remove the Ⓑ screw and remove the DIODE PCB (if attached) then pull up the PRE AMP PCB carafully.
4) Reassemble in the reverse order for installation. When positioning the PRE AMP PCB, carefully align the P1 connector on the PRE AMP PCB to the VIDEO HEAD's FPC cable not to damage the FPC cable.

3-10. REPLACEMENT OF THE HEAD CLEANER BLOCK

1) Remove the PRE AMP PCB (refer to step 3-9).
2) Remove the Ⓒ screw on the HEAD CLEANER BLOCK.
3) Reassemble in the reverse order for installtion.

3-11. REMOVAL OF THE MECHANISM BLOCK (MECHA. FRAME)

1) Remove the PRE AMP PCB (refer to step 3-9).
2) Disconnect the connectors P301, P302, P303 on the MAIN (A) PCB and P1 on the A/C HEAD PCB.
3) Disconnect the connector on the FULL TRACK ERASE HEAD and P4 connector on the OPERATION PCB.
4) Remove the three Ⓓ screws from the MECHA. FRAME as shown in Fig. 3-24.
5) Hold the rear side of the MECHA. FRAME then remove it by pulling it up backwards.
6) Reassemble in the reverse order for installation.

IV. MECHANICAL ADJUSTMENT

4-1. BACK TENSION ADJUSTMENT

1) Prepare a video cassette tape which you no longer needed. Remove both tape reels and the tape protection cover from the cassette tape. Then cover the video cassette's left and right side detection holes with black adhesive tape.
2) Play back the tapeless cassette which you prepared.
3) Confirm the distance between Ⓐ groove on the TENSION ARM and the Ⓐ mark on the MECHA. CHASSIS so that the distance should be within the value shown in Fig. 4-1
4) If the result is not satisfactory, eject the tape and adjust the TENSION ADJUST repeatedly until the result is satisfactory.

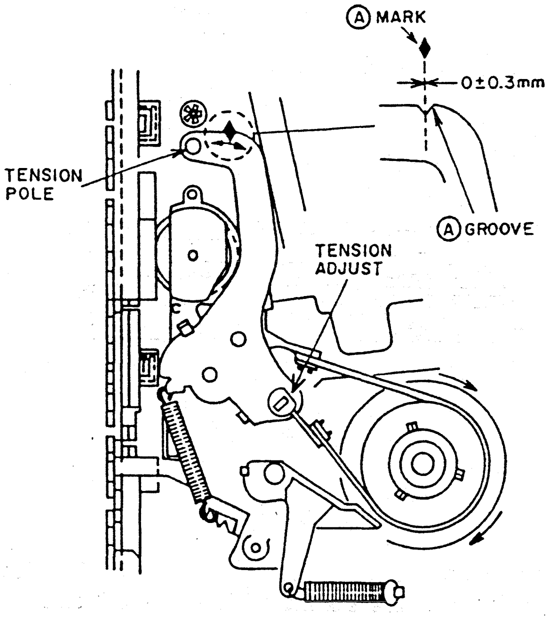


Fig. 4-1

4-2. TAPE TRANSPORT ADJUSTMENTS

NOTE: The following adjustments are required only when an irregularity is found, since these adjustment are precisely set at the factory.

4-2-1. Tape curl adjustment at the TAKE-UP TAPE GUIDE

1) Play back a recorded tape which is no longer needed.
2) Turn the Ⓐ screw on the A/C HEAD BLK, until the edge of the tape barely touches the lower part of the TAKE UP TAPE GUIDE, without any curl or wrinkle.
3) Once the Ⓐ screw is adjusted, A/C HEAD height and azimuth adjustment is required. (Refer to 4-3. A/C HEAD POSITION ADJUSTMENT.)

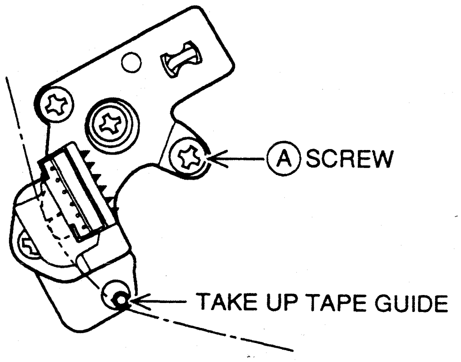
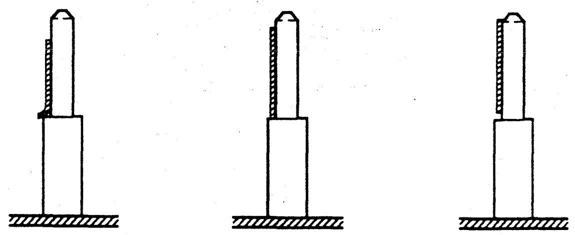


Fig. 4-2

(TAKE-UP TAPE GUIDE)

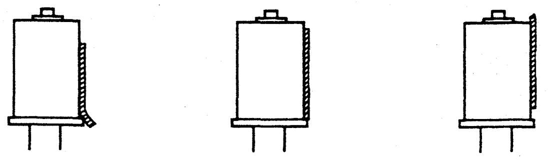


(a) INCORRECT (b) CORRECT (c) INCORRECT

Fig. 4-3

4-2-2. Confirmation of tape curl on the SUPPLY TAPE GUIDE

Confirm that the edge of the tape barely touches the lower part of the SUPPLY TAPE GUIDE, without any curl or wrinkle as shown in Fig. 4-4.



INCORRECT CORRECT INCORRECT

Fig. 4-4

4-2-3. REVIEW ARM height adjustment

1) Play back the beginning part of an E-240 tape and set the unit to the REVIEW mode by pressing the REW button. (Remove the tape protection cover to make the adjustment easier.)

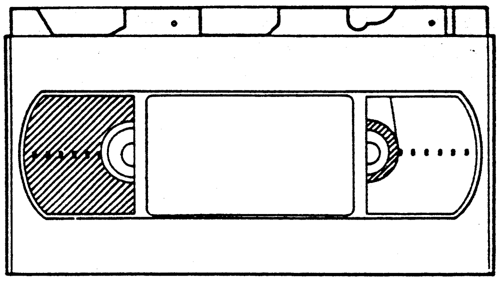


Fig. 4-5

2) Turn the REVIEW ARM height Ⓐ nut so that the edge of the tape barely touches the lower part of the TAKE-UP TAPE GUIDE, without any curl or wrinkle between the TAKE-UP TAPE GUIDE and the CAPSTAN SHAFT as shown in Fig. 4-6 to Fig. 4-8.

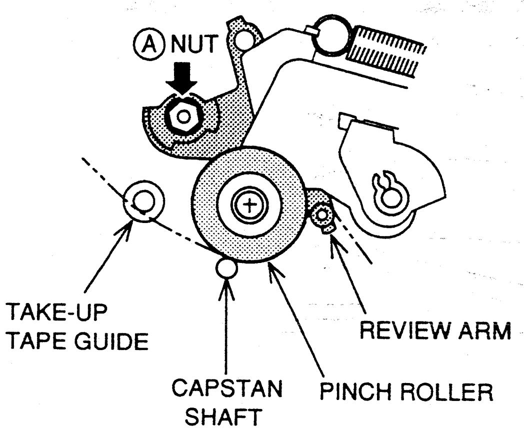
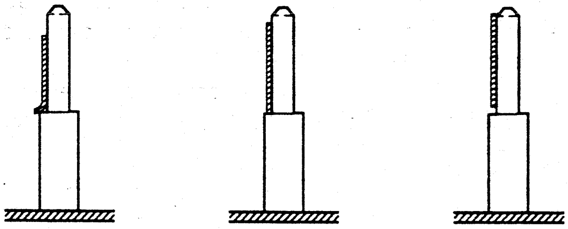


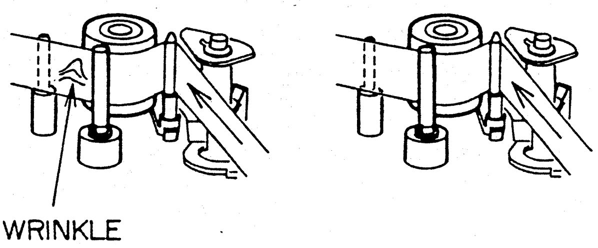
Fig. 4-6

(TAKE-UP TAPE GUIDE)



(a) INCORRECT (b) CORRECT (c) INCORRECT

Fig. 4-7

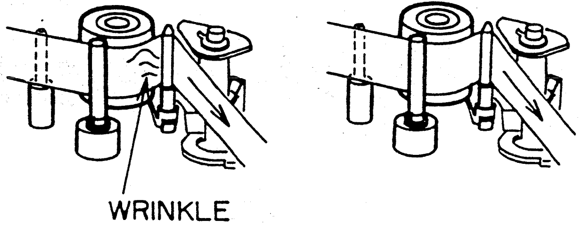


INCORRECT CORRECT

Fig. 4-8

3) Play back the beginning part of an E-240 tape and this time set the unit to the CUE mode by pressing the F. FWD button.

4) Confirm there is no curl or wrinkle near the REVIEW ARM's guide.
If curl or wrinkle of the tape occurs, slightly turn the Ⓐ nut (shown in Fig. 4-6) until it disappears.

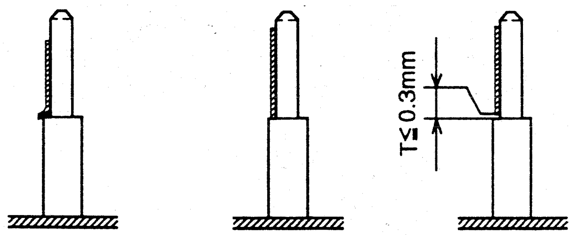


INCORRECT CORRECT

Fig. 4-9

5) Set the unit to the REVIEW mode again. Then confirm that there is no curl or wrinkle near the TAKE-UP TAPE GUIDE. (A small gap may appear after this adjustment, but this is allowable.)

(TAKE UP TAPE GUIDE)



(a) INCORRECT (b) CORRECT (c) CORRECT

Fig. 4-10

NOTE:

1. If the results are not satisfactory, repeat steps 2) to 5).
2. Always play an undamaged tape to obtain satisfactory adjustment.
3. Because an E-240 tape can be damaged easily, due of its thinness, a pre-adjustment with an E-180 tape is recommended.

4-2-4. LOADING LEADER height adjustments

1) Slightly loosen the set screw at the lower part of the LOADING LEADERs (L), (R) so that the LOADING LEADER can be adjusted with reasonable tightness. (Refer to Fig. 4-11.)

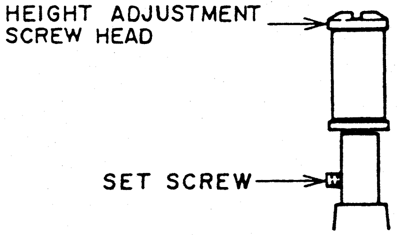

HEIGHT ADJUSTMENT SCREW HEAD
SET SCREW

Fig. 4-11

2) Play back reference tape TF-530RFS (AT-751775).
3) Connect an oscilloscope's CH-1 to TR510 emitter (ENVE) on the MAIN (A) PCB and CH-2 to TP1 (V-SWP) on the PRE AMP PCB for triggering.
4) Turn the LOADING LEADER heads with a flat head (—) screwdriver to obtain a flat RF envelope as the ideal envelope, as shown in Fig. 4-12.
5) After adjustment is completed, tighten the loading leader set screws.

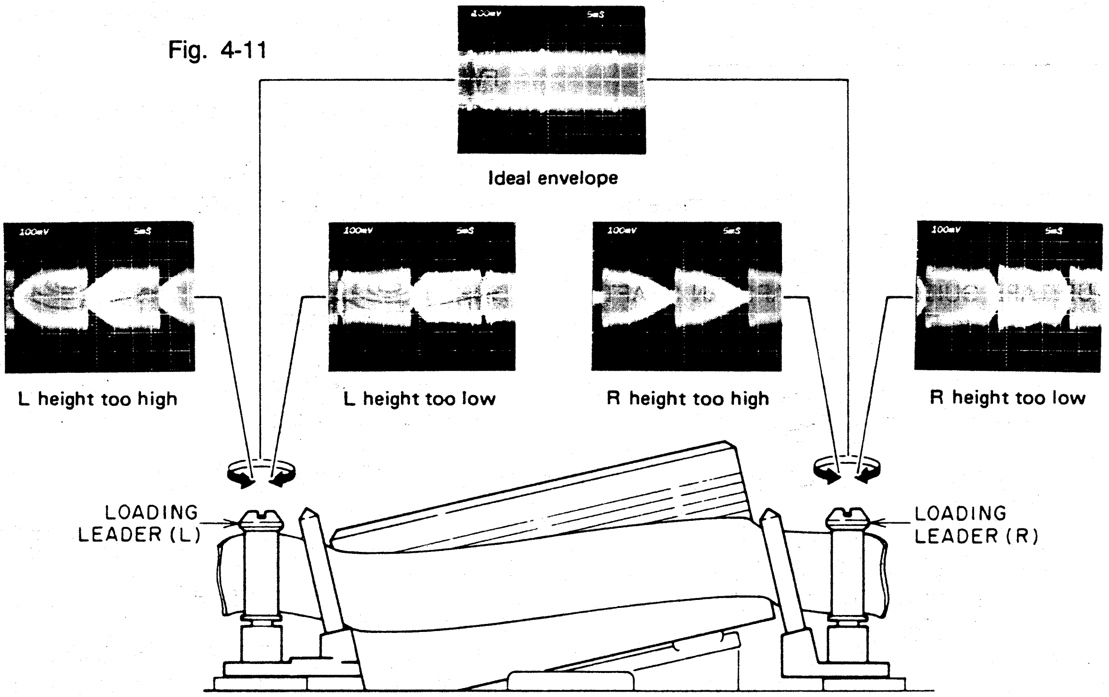

100mV 5mS
Ideal envelope
L height too high
L height too low
R height too high
R height too low
LOADING LEADER (L)
LOADING LEADER (R)

Fig. 4-12

4-3. A/C HEAD POSITION ADJUSTMENT

4-3-1. Azimuth adjustment

1) Connect an AC voltmeter or an oscilloscope to the AUDIO OUT terminal on the rear panel.
2) Play back the reference tape TF-530RFS (AT-751775).
3) Adjust the Ⓑ screw to obtain the maximum audio output.

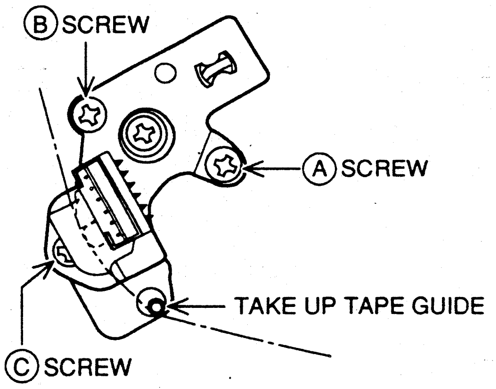
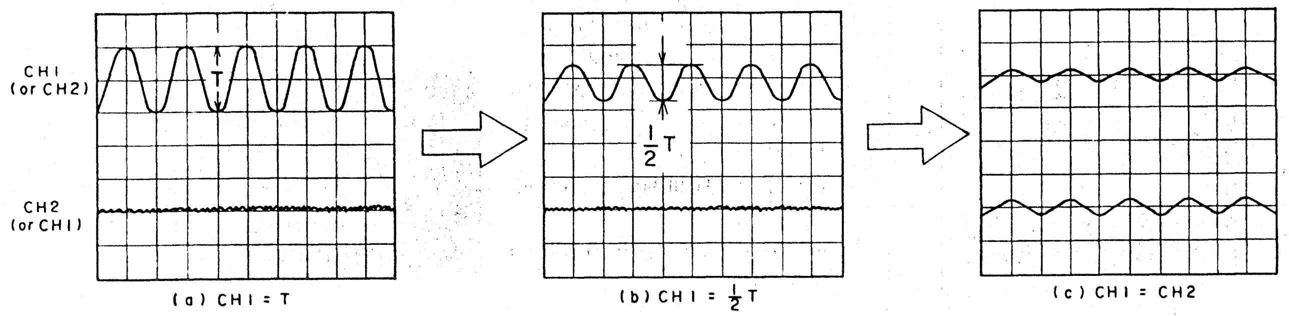

Ⓑ SCREW
Ⓐ SCREW
TAKE UP TAPE GUIDE
Ⓒ SCREW

Fig. 4-13

4-3-2. Height adjustment

1) Play back test tape TF-526HH (AT-751788).
2) Connect an oscilloscope's CH-1 to the AUDIO OUT terminal on the rear panel and CH-2 to TP301 (CTL OUT) on the MAIN (A) PCB.
3) Turn the Ⓒ screw to obtain 1/2 of the output level of either CH-1 or CH-2, whichever has an output signal as shown in Fig. 4-14.
   Then set both of the oscilloscope's channels to 100 mV/div and finely adjust the Ⓒ screw until both signals of CH-1 and CH-2 are nearly the same level.
4) Slightly turn the Ⓐ screw until the tape edge barely touches the lower part of the TAKE-UP TAPE GUIDE without any curl or wrinkle as shown in Fig. 4-3.
5) Adjust the head azimuth again. (Turning the Ⓒ screw, or Ⓐ screw, will cause head azimuth mis-alignment. Refer to 4-3-1. Azimuth adjustment.)
6) Confirm that both signals of CH-1 and CH-2 are nearly the same level (confirm that neither of the CH-1 or CH-2 output levels exceed 100 mVp-p). If the result is not satisfactory, repeat steps 3) to 5).



(a) CH1 = T (b) CH1 = $\frac{1}{2}$T (c) CH1 = CH2

Fig. 4-14

4-3-3. Phase adjustment

1) Connect an oscilloscope's CH-1 to the TR510 emitter (ENVE) on the MAIN (A) PCB and CH-2 to TP1 (V-SWP) on the PRE AMP PCB for triggering.
2) Play back reference tape TF-530RFS (AT-751775).
3) Press the "<" or ">" cursor button on the remote control until the "X" mark can be seen in the center position of the tracking range on the TV screen as shown in Fig. 4-15.

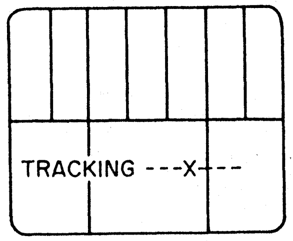


Fig.4-15

4) Loosen the Ⓓ screw slightly so that the A/C HEAD BASE can be moved with reasonable tightness.

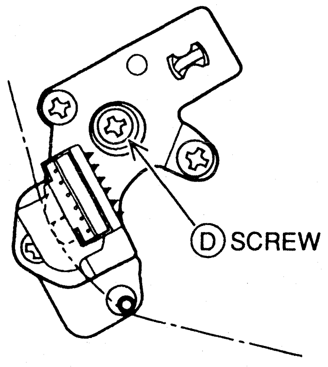


Fig.4-16

5) Insert a philips type screwdriver into the Ⓐ hole through the A/C HEAD BASE as shown in Fig. 4-17.

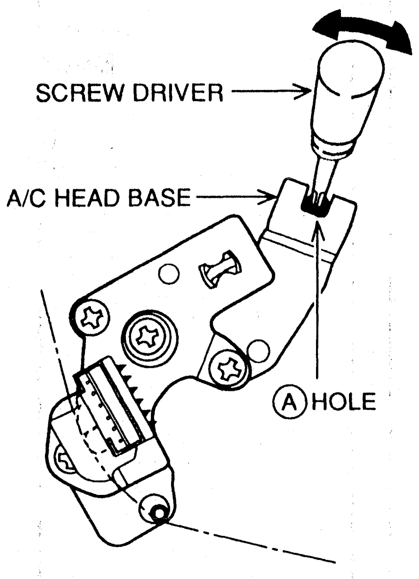


Fig. 4-17

6) Move the A/C HEAD BASE by moving a screwdriver in the direction of the arrow as shown in Fig. 4-17 to obtain the maximum RF output, then tighten the Ⓓ screw.
7) Eject the tape and then re-insert it and play it back again. Confirm that the RF output is maximum after the auto tracking control has been activiated. Next, press the "<" or ">" cursor button on the remote control unit alternately and confirm that the RF output is maximum at the tracking center position. If the result is not satisfactory, repeat the adjustment, step 2) to 6). (This adjustment is very important as this affects to the interchangeability of the recorded tapes.)

V. ELECTRICAL ADJUSTMENT

Precautionary items prior to adjustments

1. The colour bar generator output should be 1.0 Vp-p.
2. The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV).
3. Make sure that the A/C head phase adjustment has been adjusted correctly before making PB SWITCHING POINT ADJUSTMENT (refer to step 4-3-3).

The following test tapes are required.

Test tape	Parts No.
TF-527BL	AT-711880
TF-530RFS	AT-751775
TF-532CBS	AT-751360
TF-556AT	AT-751822J

STEP	ADJUSTMENT ITEM
1.	MODE and INPUT SIGNAL/TEST TAPE
2.	TEST POINT and ADJ part
3.	REMARKS (•) & RESULT (✻)

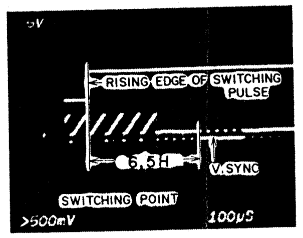
ADJ. part

Test point

1 PB SWITCHING POINT

1. "PB", test tape TF-530RFS
2. TP1 (SWP), VIDEO OUT & VR301 (SW. POINT)
3. • Connect an oscilloscope's CH-1 to TP1 (SWP) for triggering and CH-2 to VIDEO OUT.
   - Play back the test tape and set the tracking to the center position with the remote control unit.

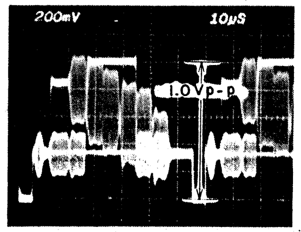
   ✻ Adjust VR301 so that the switching point is positioned 6.5 H from the V-SYNC left edge as shown.



7 VIDEO PB LEVEL

1. "REC" → "PB", PAL colour bar signal
2. VIDEO OUT & VR404 (PB LEVEL)
3. • Connect an oscilloscope to VIDEO OUT
   - Make a recording on a blank tape, then play it back

   ✻ Adjust VR404 so that the PB level becomes 1.0 Vp-p

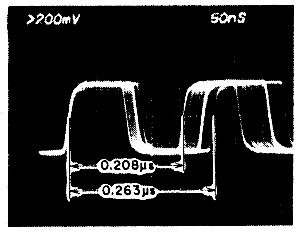


5 CARRIER SET & DEVIATION

1. "REC", PAL colour bar signal
2. TP401 (REC.Y) & VR402 (CARRIER), VR403 (DEVIATION)
3. • Connect an oscilloscope to TP401 (REC.Y)

   ✻ VR402 (CARRIER) : 0.263 us (3.8 MHz)

   ✻ VR403 (DEVIATION): 0.208 us (4.8 MHz)



2 AUDIO PB LEVEL

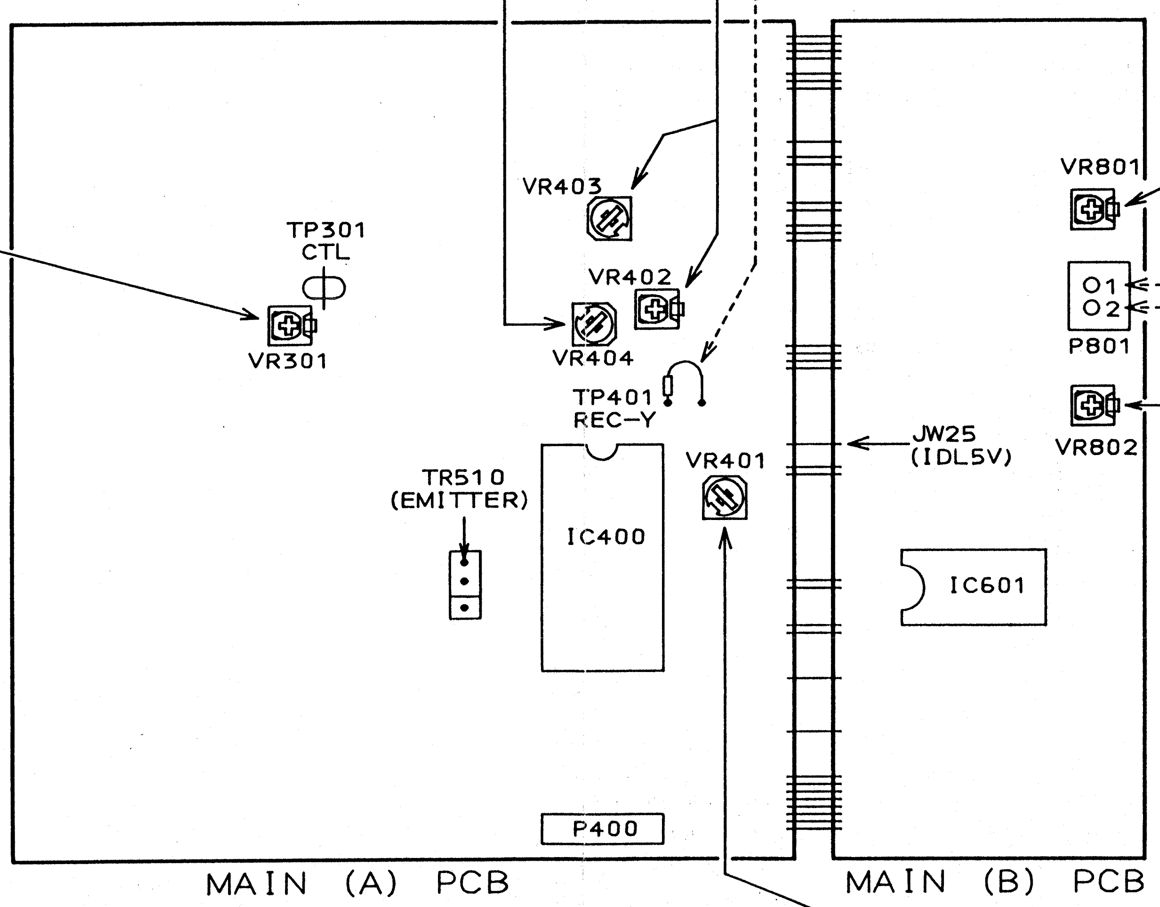
1. "PB", test tape TF-527BL
2. AUDIO OUT & VR801
3. • Connect AC voltmeter to AUDIO OUT

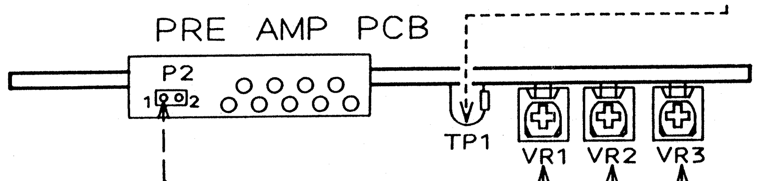
   ✻ -5 dBs

3 AUDIO REC BIAS

1. "REC", No signal input
2. P801 ① pin, ② pin & VR802
3. • Connect an AC voltmeter to P801 ① pin (GND side) and ② pin. (Never connect the AC voltmeter's GND to the VCR's ground.)

   ✻ Adjust VR802 so that the reading on the AC voltmeter becomes 2.5 mV



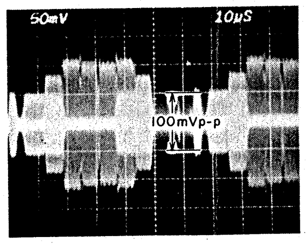


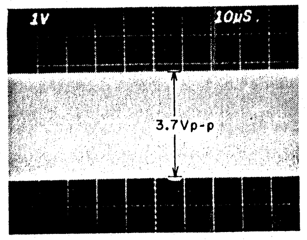
6 VIDEO REC CURRENT

1. "REC", PAL colour bar signal
2. P2 (REC.CURR) ① pin & VR1 (REC-CHROMA), VR2 (REC-Y)
3. • Connect an oscilloscope's CH-1 to P2 (REC.CURR) ① pin and CH-2 to VIDEO OUT for triggering.
   - Connect the TP401 to the JW25 (IDL5V) with a jumper wire.

   ✻ Adjust VR1 (REC-CHROMA) so that the chroma REC current becomes 100 mVp-p at the burst signal area. (Measure the center value of the noise part of the burst signal.)

   ✻ Disconnect the jumper wire and colour bar input signal, then adjust VR2 (REC-Y) so that the Y REC current becomes 3.7 Vp-p.





8 ENVELOPE DETECT (I-HQ)

(This adjustment should be performed in the "TEST" mode.) To set the VCR to the "TEST MODE", press and hold both the "POWER" and "EJECT" buttons on the front panel, then plug in the AC power cord.

The TEST MODE can be cancelled by disconnecting the AC power cord or simply by pressing the RESET button on the front panel.

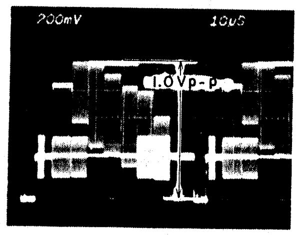
1. "REC" → "PB", PAL colour bar signal
2. FL display & VR3
3. • Record the PAL colour bar signal on the test tape TF-556AT and then play it back.
   - Observe the number which is displayed on the minute part of the FL display.

   ✻ Adjust the VR3 so that the number displayed on the FL display becomes "94".

4 VIDEO E-E LEVEL

1. "E-E" (STOP mode), PAL colour bar signal
2. VIDEO OUT & VR401 (E-E LEVEL)
3. • Connect an oscilloscope to VIDEO OUT.

   ✻ 1.0 Vp-p



VI. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list the Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref. No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

Ref. No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] :AAL (U.S.A)	[S] :SAA (Australia)
[B] :BEAB (England)	[U] :U/T (Universal Area)
[C] :CSA (Canada)	
[E] :CEE (Europe)	[V] :VDE (Germany)
[J] :JPN (Japan)	[Y] :Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

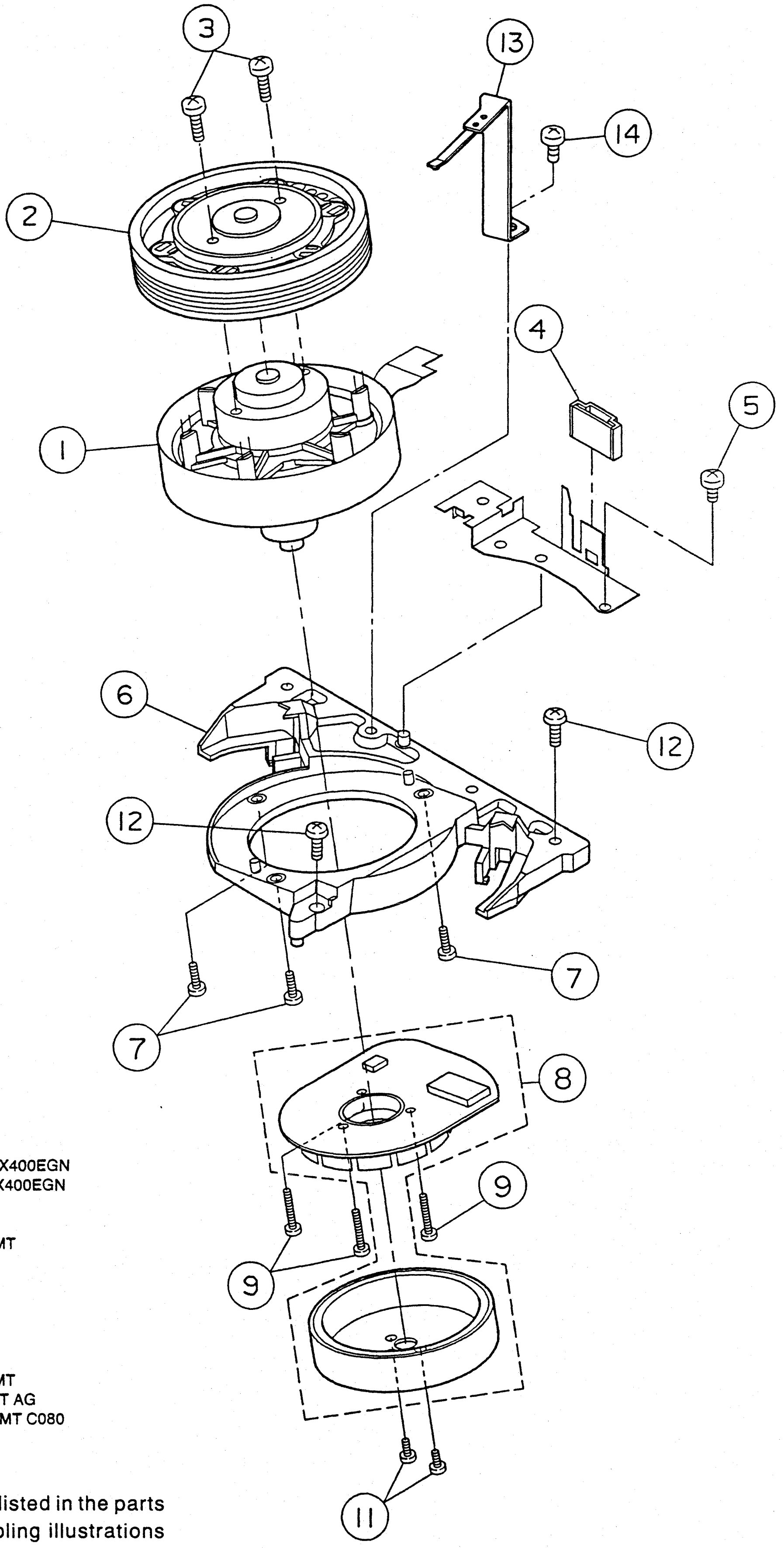
We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	AV-B1038A010A	REMOCON BLK RC-V250E [EXCEPT EOG/G23EOH/EOG-V]
2	AV-B1051A010B	REMOCON BLK RC-W201G [EOG-V]
3	AV-B1050A010A	REMOCON BLK RC-W202E [G23EOH]
4	AV-B1050A010D	REMOCON BLK RC-W202G [EOG]
5	AV-B1065A010A	REMOCON BLK RC-W212E [G24EK]
6	BB-V1130A020L	MECHA DECK BLK G20EDG
7	BL-V1102A140A	ARM LOADING BLK 425EA
8	BL-V1102A050A	TENSION ARM BLK 425EA
9	BM-400682J3	MOTOR DFX-67B3VWB2 [CAPSTAN MOTOR]
10	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
11	BM-387503J	MOTOR PART [LOADING MOTOR]
12	*BT-410491J	TRANS POW V1130 EDG [EDG]
13	*BT-416855J	TRANS POW V1164 EA [EK]
14	*BT-410488J	TRANS POW V1130 EM [EM]
15	*BT-403873J	TRANS POW V1130 EO [EOH/EO/EOG]
16	*BT-410606J	TRANS POW V1146 EOG-V [EOG-V]
17	BV-V1102A150A	CASSETTE LOAD BLK 425EA
18	BV-V1102A070A	LEADER S BLK 425EA
19	BV-V1102A080A	LEADER T BLK 425EA
20	BV-V1123A410A	LOWER DRUM BLK X400EGN
21	BV-403410J	RF CONVERTER MDLK6B733A EK [EK]
22	BV-403409J	RF CONVERTER MDLK6D755A EO [EOH/EO/EOG/EOG-V]
23	BV-403408J	RF CONVERTER MDLK6E753A EDG [EDG]
24	BV-387611J1	RF CONVERTER YAA21-0808G EV [EM]
25	BV-V1123A420A	UPPER DRUM BLK X400EGN
26	BV-403238J1	VIF UNIT KX EK [EK]
27	BV-403239J1	VIF UNIT KX EM [EM]
28	BV-403241J1	VIF UNIT KX EOG [EO]
29	BV-403240J1	VIF UNIT KX EOH [EOH]
30	BV-416729J	VIF UNIT KX-TEK EOG [EOG/EOG-V]
31	BV-412399J	VIF UNIT KX-38.9 EDG [EDG]
32	EA-387496J	PC (#) SENSOR
33	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
34	EC-408376J	C EC V CUT KMG 102M 50.0DC
35	EC-410530J	C EC V CUT KMG 332M 50.0DC
36	EC-408426J	C EC V F05 LXF8 121M 50.0DC
37	EC-403371J	C EC V F05 LXF8 221M 25.0DC
38	EC-403878J	C EC V T05 LXF8 271M 16.0DC
39	EC-404197J	C EC V T05 SXE8 330M 80.0DC
40	ED-390011J	D LED GL451 INFRARED [D1]
41	ED-390012J	D LED GL4800 INFRARED [D2]
42	ED-403450J	D LED SE303ARF-C INFRARED
43	ED-416503J	D LED SID1010CXM LF51 INFRARED
44	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A [EOG/EOG-V]
45	ED-386226J	D SCHOTTKY RB100AT-32T26 40/1 [EOG/EOG-V]
46	ED-386031J	D SILICON CHIP MA110-TW
47	*ED-379298	D SILICON DBA20B 100/2.0A
48	ED-366443	D SILICON H MA700FA5 F10
49	ED-307572	D SILICON H 1SS131
50	ED-366684	D SILICON H 1SS136 F05
51	ED-401046J	D SILICON RL104F-E T26 400/1A
52	ED-511907	D SILICON 1N4002 100/1.0A
53	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
54	ED-402204J	D ZENER H HZS11A3 [EDG/EK]
55	ED-391005J	D ZENER H HZS12B1
56	ED-396058J	D ZENER H HZS12B3 [EOH/EO/EOG]
57	ED-410359J	D ZENER H HZS15-1 T26
58	ED-397319J	D ZENER H HZS15-2
59	ED-404387J	D ZENER H HZS16-1
60	ED-402230J	D ZENER H HZS36-1
61	ED-408912J	D ZENER H HZS36-3
62	ED-412105J	D ZENER H HZS5B1 T26
63	ED-397233J	D ZENER H HZS5C3
64	ED-387919J	D ZENER H HZS6A1L
65	ED-403743J	D ZENER H HZS6B3
66	ED-405603J	D ZENER H MTZJ10B T26 [EOH/EO/EOG/EOG-V]
67	ED-403267J	D ZENER H MTZJ3.3B T26
68	ED-405524J	D ZENER H MTZJ36A T26
69	ED-405604J	D ZENER H MTZJ4.3C T26 [EOH/EO/EOG/EOG-V]
70	ED-403724J	D ZENER H UTZJ10A
71	ED-405264J	D ZENER H UTZJ10C
72	ED-404031J	D ZENER H UTZJ11B T26
73	ED-403725J	D ZENER H UTZJ12C [EK]
74	ED-403265J	D ZENER H UTZJ15A T26
75	ED-403948J	D ZENER H UTZJ16C T26
76	ED-403947J	D ZENER H UTZJ22C T26
77	ED-403726J	D ZENER H UTZJ30B [EOG/EOG-V]
78	ED-404033J	D ZENER H UTZJ33B
79	ED-405265J	D ZENER H UTZJ36C
80	ED-404032J	D ZENER H UTZJ39A
81	ED-403732J	D ZENER H UTZJ5.6A
82	ED-405446J	D ZENER H UTZJ5.6B T26
83	ED-403730J	D ZENER H UTZJ6.2A [EOG/EOG-V]
84	ED-403278J	D ZENER H UTZJ7.5B
85	ED-404086J	D ZENER H UTZJ7.5C
86	ED-403731J	D ZENER H UTZJ8.2C [EOH/EOG/EOG-V]
87	ED-403279J	D ZENER H UTZJ9.1B
88	EE-412395J	TV TUNER ENV-578C9F1 EOH [EOH]
89	EE-416524J	TV TUNER TEKE4-034 EOG [EOG/EOG-V]
90	EE-387607J1	TV TUNER TERB1-008B EK [EK]
91	EE-387604J3	TV TUNER TERE1-007D EOG [EO]
92	EE-387603J1	TV TUNER TERE1-019B EO [EDG]
93	EE-405638J	TV TUNER VTSS6CZ EM [EM]
94	*EF-413079J	FUSE S505 T 250V 1.00A
95	EH-383083J	COMP R RGLE3X 103J
96	EH-403945J	COMP R RGLE9X 103J
97	EH-416491J	DL EFDJLA13A
98	EH-394874J	FILTER CE SAF38.9MZA70Z
99	EH-730625J	FILTER CE SAF38.9MZW70Z [EXCEPT EK]
100	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EXCEPT EOH/EO/EK]
101	EH-373920	FILTER CE SFE5.5MB [EXCEPT EK]
102	EH-373921	FILTER CE SFE6.0MB [EK]
103	EH-412432J	FILTER CE SFSH6.5MDB 6.500MHZ
104	EH-368827	FILTER CE SFS5.5MD 5.500MHZ
105	EH-373918	FILTER CE TPS5.5MB
106	EH-729986J	FILTER CE TPS5.5MB2 [EM]
107	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EXCEPT EM/EK]
108	EH-373919	FILTER CE TPS6.0MB [EK]

Ref. No.	Part No.	Description
109	EH-376338	FILTER CE TPS6.5MB
110	EH-714628	FILTER SAW SAF39.5MZ70Z [EK]
111	EI-394680J	IC AN3171K
112	EI-373981J1	IC BA10393N
113	EI-373980	IC BA15218N
114	*EI-381575J	IC BA6121
115	EI-353421	IC BA6229
116	EI-366892	IC BA7025L [EXCEPT EOH/EO/EK]
117	EI-388360J	IC BA7765AS
118	EI-356457	IC BU4013B [EM]
119	EI-414885J	IC CF72306
120	EI-414884J	IC CF72307
121	EI-403250J	IC LA7376
122	EI-403234J1	IC LA7391A
123	EI-394856J	IC LC8992
124	EI-401050J	IC LVA523SA2
125	EI-389622J	IC L5631
126	EI-387019J	IC MC1377P
127	EI-403469J	IC MM1068XS
128	EI-414822J1	IC MN675201A-XDS1 QBXSYP2
129	EI-412300J	IC M50933-131FP QXDLCD1
130	EI-416842J	IC M50934-069FP QXUKGW1
131	EI-368809	IC M51496P
132	EI-400756J	IC NJM4558L-B
133	EI-400672J	IC S-8052ALB-LE
134	EI-373955	IC S-8053ALR
135	EI-385958J	IC SAA4700
136	EI-408393J	IC ST24C01B1
137	EI-405224J	IC ST24C02AB1/AAB
138	EI-410265J	IC ST24C04B1
139	EI-200573	IC TC4053BP [EM]
140	EI-310036	IC TC4066BP
141	EI-376112	IC UPD6122G
142	EI-405722J	IC UPD6450CX-515
143	EI-408430J1	IC UPD75004CU-148 JXVPS2
144	EI-414817J	IC UPD75217CW-185 QBXOPP1 [EXCEPT EOG/EOG-V]
145	EI-416736J	IC UPD75217CW-194 QBXOPG1 [EOG/EOG-V]
146	EI-416782J	IC UPD78014CW-019 QXVPT1
147	EI-410125J	IC V53C464AP-80
148	EI-403451J	OSC CE CSB1200J 1.200MHZ
149	EI-403467J	OSC CE CSB500F40 15.680KHZ
150	EI-368829	OSC CE CSB512P
151	EI-414889J	OSC CE CST10.0MTW-TF01 T05
152	EI-390687J	OSC CE CSU455PL 455KHZ
153	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ
154	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
155	EI-394675J	OSC X'TAL HC-49/U 13875KHZ
156	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
157	EI-389640N	OSC X'TAL HC-49/U 8000KHZ
158	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ
159	EI-368825	OSC X'TAL MX-38T 32.768KHZ
160	EI-381632J	OSC X'TAL 86686 4.433619MHZ
161	EJ-412291J	TERMINAL LCD (6) B1043
162	EM-401077J	IND FL FV496G CHARACTER
163	EM-408437J	IND LCD LD-B5444A ENGLISH
164	EO-408381J	COIL FIX 2 C-5344-40 560K
165	EO-408441J	COIL OSC 1 125-8021-41 70.0KHZ
166	*EQ-400153J	RELAY POW AG2013 1TR 12V
167	*ER-328278	R FUSE H ERD2FC 1/4W 10R0G
168	*ER-307565	R FUSE H S10 ERD2FC 1/4W 6R8J
169	*ER-328519	R FUSE H S10 ERD2FC 1/4W 68R0G
170	*ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J
171	*ER-401039J	R FUSE V T05 ERD2FCV 1/4W 4R7J
172	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
173	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
174	*ER-400688J	R FUSE V T05 RF25SCVTP1/4WR10K
175	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
176	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
177	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
178	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [EOH/EO/EOG/EOG-V]
179	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
180	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
181	ER-403405J	R OMF H S12 FS 1W R75J
182	ES-373099	SW LEAF MTS10110MPC1
183	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
184	ES-414811J	SW SLIDE CHIP SSSS21 01-02N

Ref. No.	Part No.	Description
185	ES-408405J	SW TACT EVQ 235 09K T05
186	ES-349474	SW TACT SKHHAM004A
187	ES-394558J	SW TACT SKHRAA
188	ET-411995J	DETECTOR GP1U581X
189	ET-724885J	TR CHIP RT1N141C [EO/EOG/EOG-V]
190	ET-713614	TR CHIP 2SA1235 E,F
191	ET-725820J	TR CHIP 2SC2735J
192	ET-413009J	TR CHIP 2SC2884-Y TE12R T12E
193	ET-356336	TR DTA114ES
194	ET-363953	TR DTA114TS [EM]
195	ET-354415	TR DTA144ES
196	ET-373985	TR DTA144TS
197	ET-353897	TR DTC114ES
198	ET-360399	TR DTC114TS
199	ET-354364	TR DTC143TS
200	ET-354414	TR DTC144ES [EXCEPT EK]
201	ET-361490	TR PHOTO PN268 [TR1]
202	ET-390010J	TR PHOTO PT4800 [TR2]
203	ET-390009J	TR PHOTO PT493F [TR4]
204	ET-364040	TR UN421D
205	ET-353899	TR 2SA1317 S,T,U
206	ET-389803J	TR 2SA933S R,S
207	*ET-366365	TR 2SB1185 E,F
208	ET-388338J	TR 2SB1425 S,E
209	*ET-408841J	TR 2SB1565 E,F
210	ET-356817	TR 2SB891 Q,R
211	ET-400218J	TR 2SC1740S R,S
212	ET-414816J	TR 2SC2668 Y T05
213	ET-397160J	TR 2SC3330 R,S,T,U,V
214	*ET-404195J	TR 2SC4486 S,T T05
215	ET-354083	TR 2SD1189 Q,R
216	ET-366168	TR 2SD1292 Q,R [EOG/EOG-V]
217	*ET-381175J	TR 2SD1856
218	*ET-391025J	TR 2SD2012
219	ET-405622J	TR 2SD2061 E,F [EOH/EO/EOG/EOG-V]
220	*ET-408842J	TR 2SD2394 E,F
221	*ET-411668J	TR 2SD2395 E,F
222	ET-370819	TR.CHIP 2SC3052
223	EZ-414327J	IND NAME PLATE (1)-E [W202E]
224	EZ-415490J	IND NAME PLATE (1)-G [W202G]
225	EZ-417484J	IND NAME PLATE (11)-E
226	HE-390013J	HEAD E HVFME0020A
227	HR-405340J	HEAD COMBO HVMZA1121A
228	HZ-408193J	ROLLER HEAD CLEANER [EXCEPT EK]
229	MB-387289J	BELT CAPSTAN
230	MB-414326J	KEY RUBBER
231	MB-415211J	KEY RUBBER (A7)
232	MB-415216J	KEY RUBBER (B)
233	MI-387294J1	IDLER PART
234	ML-391745J3	ARM DAMPER
235	ML-387350J1	ARM LID OPENER
236	ML-387423J	ARM LOADING BRAKE
237	ML-387277J4	ARM REVIEW PART
238	ML-387402J1	LEVER TRIGGER
239	ML-387316J	MAIN BRAKE (S) PART
240	ML-387318J	MAIN BRAKE (T) PART
241	ML-387321J1	REVIEW BRAKE PART
242	ML-387324J1	SLIDER BRAKE PART
243	ML-404944J	SLIDER TRIGGER (2)
244	MP-404852J	PINCH ROLLER (2) PART
245	MR-387406J	HOLDER THRUST WORM
246	MR-391968J	PULLEY TRIGGER (2)
247	MR-407378J1	ROLLER IMPEDANCE (2)
248	MT-390954J1	DISK (2) PART
249	MT-407370J	DISK (4) PART
250	MZ-387298J4	DISK CLUTCH PART
251	MZ-387331J2	GEAR CAM SLIDER
252	MZ-387335J	GEAR EJECT
253	MZ-387333J1	GEAR FRONT LOADING
254	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
255	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
256	MZ-387332J	GEAR WORM WHEEL

HEAD DRUM BLOCK

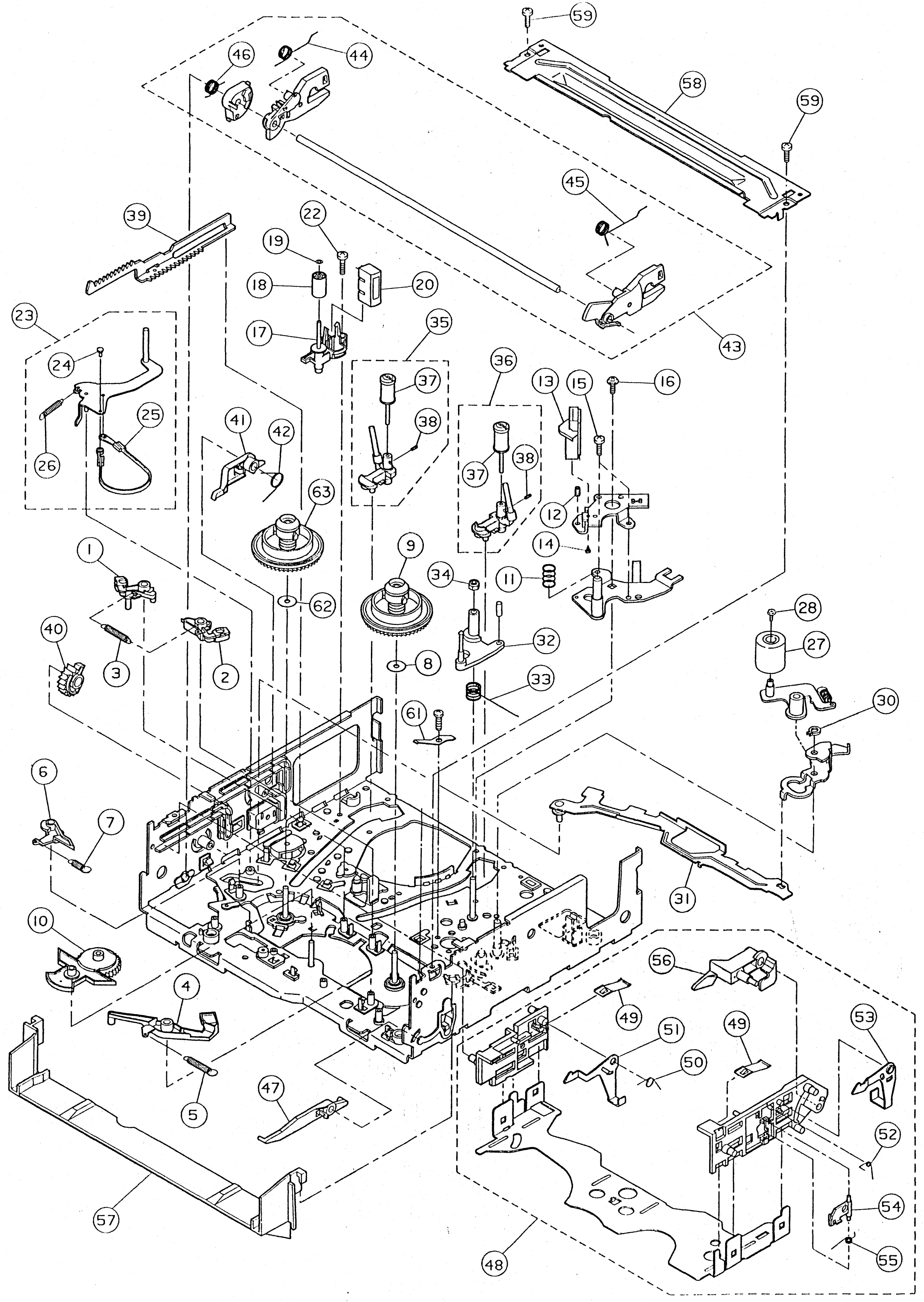


2. HEAD DRUM BLOCK

Ref.	No.Part	No.Description
1	BV-V1123A410A	LOWER DRUM BLK X400EGN
2	BV-V1123A420A	UPPER DRUM BLK X400EGN
3	ZS-321298	BID30X08STL CMT
4	SZ-387388J	HOLDER FPC
5	ZS-358936	ST BID30X06STL CMT
6	MA-387474J3	BASE DRUM
7	ZS-563444	BID26X08STL CMT
8	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
9	ZS-467796	PAN26X12STL CMT
11	ZS-379350	PAN30X06STL CMT
12	ZS-336714	ST BID30X12STL CMT
13	VT-401282J	EARTH BRUSH PART AG
14	ZS-409216J	ST PAN30X07STL CMT C080

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MECHA BLOCK (1)



3. MECHA BLOCK (1)

Ref. No.	Part No.	Description
1	ML-387316J	MAIN BRAKE (S) PART
2	ML-387318J	MAIN BRAKE (T) PART
3	ZG-387320J	SP PULL MAIN BRAKE
4	ML-387321J1	REVIEW BRAKE PART
5	ZG-387323J	SP PULL REVIEW BRAKE
6	ML-387423J	ARM LOADING BRAKE
7	ZG-387467J	SP PULL LOADING BRAKE
8	ZW-389814J	PW31X110X050PSL
9	MT-390954J1	DISK (2) PART
10	MI-387294J1	IDLER PART
11	ZG-387438J1	SP PUSH A/C
12	ZS-410851J	PAN30X070STL CMT CP
13	HR-405340J	HEAD COMBO HVMZA1121A
14	ZS-404844J	PAN20X02STL BZN PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-409216J	ST PAN30X07STL CMT C080
17	MZ-407375J1	HOLDER FE HEAD (2) PART
18	MR-407378J1	ROLLER IMPEDANCE (2)
19	ZW-409602J	SLIT W17X035X025PSL
20	HE-390013J	HEAD E HVFME0020A
22	ZS-336714	ST BID30X12STL CMT
23	BL-V1102A050A	TENSION ARM BLK 425EA
24	SZ-407187J2	HOLDER LEVER TENSION (2)
25	ML-390768J4	TENSION BAND PART
26	ZG-387272J	SP PULL TENSION
27	MP-404852J	PINCH ROLLER (2) PART
28	ZS-464703	BID20X04STL CMT
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J1	SLIDER PINCH PART
32	ML-387277J4	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-401776J	NUT REVIEW
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J1	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J3	ARM DAMPER
42	ZG-395567J	SP TORSION ARM DAMPER
43	BL-V1102A140A	ARM LOADING BLK 425EA
44	ZG-387417J	SP TORSION LOAD (S)
45	ZG-387418J	SP TORSION LOAD (T)
46	ZG-392831J	SP TORSION JOINT (2)
47	ML-387350J1	ARM LID OPENER
48	BV-V1102A150A	CASSETTE LOAD BLK 425EA
49	ZG-387348J1	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER (S)
51	ML-387345J	LEVER DAMPER (S)
52	ZG-388290J1	SP TORSION DAMPER (T)
53	ML-387346J	LEVER DAMPER (T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J1	SP TORSION RELEASE
56	ML-387349J2	ARM SHUTTER
57	SE-395554J1	GUIDE FRONT (2)
58	MZ-406134J	PLATE UPPER (2)
59	ZS-358936	ST BID30X06STL CMT
61	ZG-392294J	SP PLATE EARTH
62	ZW-410733J	PW31X050X050PSL
63	MT-407370J	DISK (4) PART
64	BB-V1130A020L	MECHA DECK BLK G20EDG

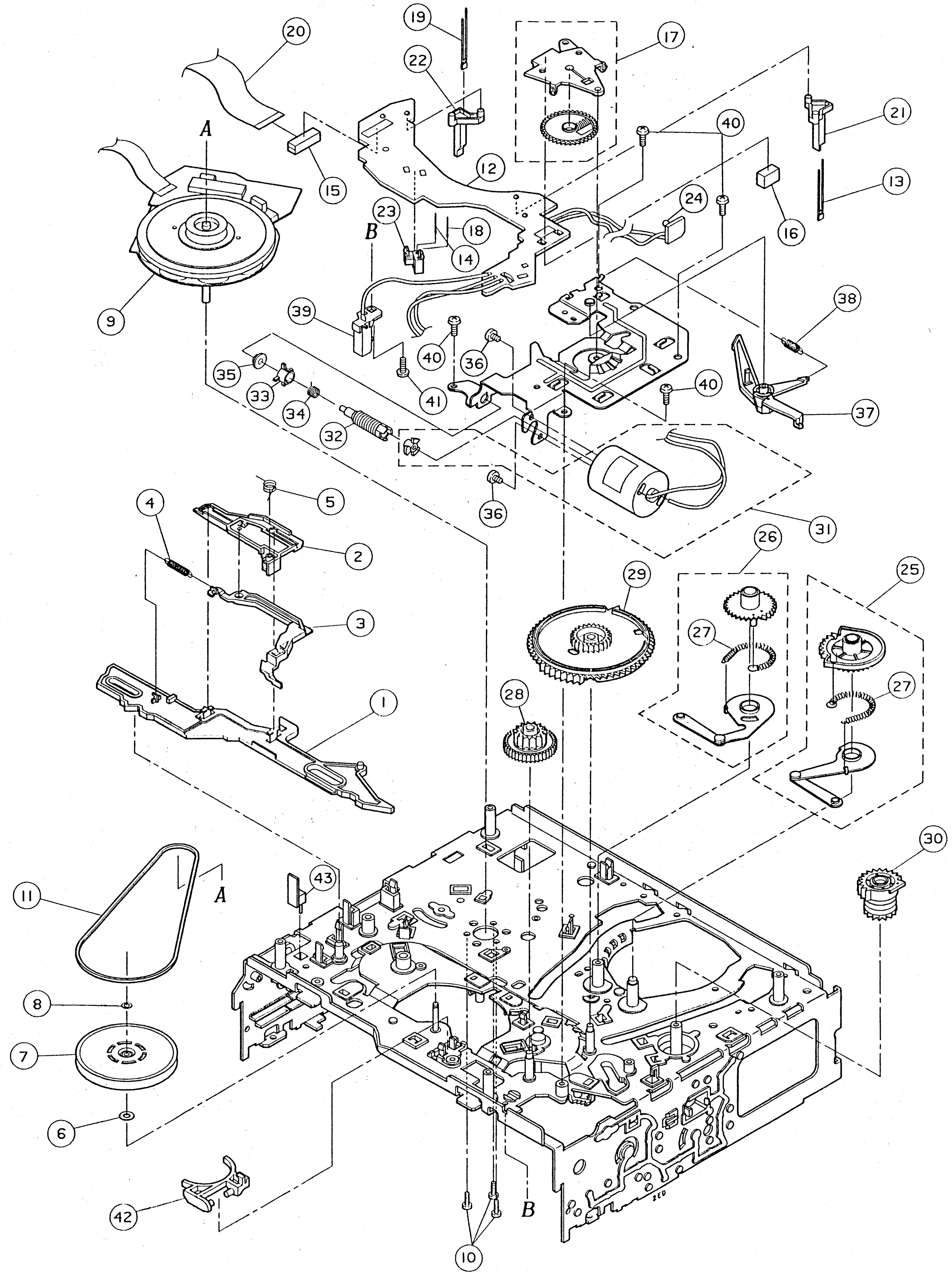
NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

4. MECHA BLOCK (2)

Ref. No.	Part No.	Description
1	ML-387324J1	SLIDER BRAKE PART
2	ML-404944J	SLIDER TRIGGER (2)
3	ML-387402J1	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-387298J4	DISK CLUTCH PART
8	ZW-387492J	SLIT W21X040X050PSL
9	BM-400682J3	MOTOR DFX-67B3VWB2 [CAPSTAN MOTOR]
10	ZS-365149	PT BID26X06STL CMT
11	MB-387289J	BELT CAPSTAN
12	EA-387496J	PC (#) SENSOR
13	ED-390011J	D LED GL451 INFRARED [D1]
14	ED-390012J	D LED GL4800 INFRARED [D2]
15	EJ-387497J	SOCKET HOUSING 5062-30-10-13 [PS1]
16	EJ-381837J	SOCKET 174074-5 5P [P1]
17	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
18	ET-390010J	TR PHOTO PT4800 [TR2]
19	ET-390009J	TR PHOTO PT493F [TR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P [WP1]
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-387446J	HOLDER PHOTO SENSOR
24	ET-361490	TR PHOTO PN268 [TR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J1	SP PULL TOGGLE
28	MZ-387332J	GEAR WORM WHEEL
29	MZ-387331J2	GEAR CAM SLIDER
30	MZ-387333J1	GEAR FRONT LOADING
31	BM-387503J	MOTOR PART [LOADING MOTOR]
32	MZ-409537J	GEAR WORM (2) PART
33	MR-391968J	PULLEY TRIGGER (2)
34	ZG-387443J	SP TRIGGER
35	MR-387406J	HOLDER THRUST WORM
36	ZS-425981	BID30X03STL CMT
37	BL-387458J2	CAPSTAN BRAKE PART
38	ZG-387502J	SP PULL CAPSTAN BRAKE
39	ES-373099	SW LEAF MTS10110MPC1
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-358936	ST BID30X06STL CMT
42	ML-387311J2	ARM COUPLING
43	ES-408470J	SW MICRO HXW0593-01-100 01-1 [S-SW]

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MECHA BLOCK (2)



5. P.C BOARD BLK

Ref. No.	Part No.	Description
1-A	BA-V1164A600A	PC (#) MAIN (PAL) BLK G20EDG
1-B	BA-V1164A600C	PC (#) MAIN (PAL) BLK G20EM
1-C	BA-V1164A600F	PC (#) MAIN (PAL) BLK G20EOH [EOH]
1-D	BA-V1164Q600D	FRPC (#) MAIN (PAL) BLK G20EO/FR
1-E	BA-V1164Q600E	FRPC (#) MAIN (PAL) BLK G24EOG/FR
1-F	BA-V1164Q600G	FRPC (#) MAIN (PAL) BLK G25EOG-V/ FR
1-G	BA-V1164Q600B	FRPC (#) MAIN (PAL) BLK G20EK/FR
1-H	BA-V1164Q600H	FRPC (#) MAIN (PAL) BLK G24EK/FR
2-A	BA-V1130A610C	PC PRE AMP BLK F220EDG [EXCEPT EM/EK]
2-B	BA-V1130A610B	PC PRE AMP BLK F220EM [EM]
2-C	BA-V1130A610A	PC PRE AMP BLK F220EA [EK]
3-A	BA-V1164A630A	PC (#) OPERATION (B) BLK G20EDG
3-B	BA-V1164A630C	PC (#) OPERATION (B) BLK G20EM
3-C	BA-V1164A630F	PC (#) OPERATION (B) BLK G20EOH [G20EOH/G21EOH]
3-D	BA-V1164A630G	PC (#) OPERATION (B) BLK G23EOH
3-E	BA-V1164Q630D	FRPC (#) OPERATION (B) BLK G20EO/
3-F	BA-V1164Q630E	FR
3-G	BA-V1164Q630H	FRPC (#) OPERATION (B) BLK G24EOG/ FR
3-H	BA-V1164Q630B	FRPC (#) OPERATION (B) BLK G25EOG-
3-J	BA-V1164Q630J	V/FR
4-A	BA-V1164A500C	FRPC (#) OPERATION (B) BLK G20EK/ FR
4-B	BA-V1130A510A	FRPC (#) OPERATION (B) BLK G24EK/ FR
4-C	BA-V1166A500C	PC (#) POWER EO BLK G20EOH [EOH]
4-D	BA-V1166A500A	PC (#) POWER EO BLK G20EO [EO]
4-E	BA-V1166Q500B	FR PC (#) POWER EO BLK G24EOG/FR [EOG]
4-F	BA-V1161A500B	PC (#) POWER EGN BLK G25EOG-V [EOG-V]
4-G	BA-V1164Q500B	FR PC POWER BLK G20EK/FR [EK]

PC (#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARDS.
- MAIN (A) P.C BOARD
- MAIN (B) P.C BOARD

PC (#) OPERATION BLK CONSISTS OF FOLLOWING P.C BOARDS. (G24EK)
- OPERATION P.C BOARD
- PIN JACK P.C BOARD

PC (#) POWER BLK CONSISTS OF FOLLOWING P.C BOARDS. (EOH/EO/EOG)
- POWER P.C BOARD
- DIODE P.C BOARD

PC (#) POWER BLK CONSISTS OF FOLLOWING P.C BOARDS. (EM)
- POWER SUPPLY (1) P.C BOARD
- POWER SUPPLY (2) P.C BOARD
- DIODE P.C BOARD

PC (#) POWER BLK CONSISTS OF FOLLOWING P.C BOARDS. (EOG-V)
- POWER SUPPLY (1) P.C BOARD
- POWER SUPPLY (2) P.C BOARD

6. MAIN (A) P.C BOARD

Ref. No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131 [EXCEPT EK]
D4	ED-307572	D SILICON H 1SS131 [EXCEPT EK]
D6	ED-403731J	D ZENER H UTZJ8.2C [EOH/EOG/EOG-V]
D7	ED-307572	D SILICON H 1SS131 [EOH/EOG/EOG-V]
D8	ED-387919J	D ZENER H HZS6A1L
D9	ED-307572	D SILICON H 1SS131 [EO/EOG/EOG-V]
D10	ED-307572	D SILICON H 1SS131 [EO/EOG/EOG-V]
D12	ED-405603J	D ZENER H MTZJ10B T26 [EOH/EO/EOG/EOG-V]
D13	ED-405604J	D ZENER H MTZJ4.3C T26 [EOH/EO/EOG/EOG-V]
D50	ED-307572	D SILICON H 1SS131 [EOH/EOG/EOG-V]
D101	ED-403725J	D ZENER H UTZJ12C [EK]
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-397233J	D ZENER H HZS5C3
D205	ED-403267J	D ZENER H MTZJ3.3B T26
D206	ED-307572	D SILICON H 1SS131 [EOG/EOG-V]
D207	ED-307572	D SILICON H 1SS131 [EOG/EOG-V]
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131
D210	ED-403726J	D ZENER H UTZJ30B [EOG/EOG-V]
D211	ED-403730J	D ZENER H UTZJ6.2A [EOG/EOG-V]
D212	ED-511907	D SILICON 1N4002 100/1.0A
D213	ED-511907	D SILICON 1N4002 100/1.0A
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-404086J	D ZENER H UTZJ7.5C
D304	ED-403724J	D ZENER H UTZJ10A
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
D309	ED-307572	D SILICON H 1SS131
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131 [EM]
D405	ED-307572	D SILICON H 1SS131
D406	ED-366443	D SILICON H MA700FA5 F10
D501	ED-307572	D SILICON H 1SS131 [EXCEPT EK]
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D505	ED-307572	D SILICON H 1SS131
D506	ED-307572	D SILICON H 1SS131
D507	ED-307572	D SILICON H 1SS131
D508	ED-307572	D SILICON H 1SS131 [EXCEPT EK]
DL500	EH-416491J	DL EFDJLA13A
DL501	EH-394838J	DL ADL-FN1344Q [EM]
FL1	EH-394684J	FILTER EMI ZBF503D-00TA T05 [EOG-V]
FR201	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
FR202	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [EOH/EO/EOG/EOG-V]
FR350	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR501	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
IC1	EI-389622J	IC L5631
IC101	EI-310036	IC TC4066BP
IC201	EI-400756J	IC NJM4558L-B
IC301	EI-414822J1	IC MN675201A-XDS1 QBXSYP2
IC302	EI-353421	IC BA6229

Ref. No.	Part No.	Description
IC303	EI-373980	IC BA15218N
IC400	EI-403234J1	IC LA7391A
IC401	EI-394856J	IC LC8992
IC402	EI-373981J1	IC BA10393N
IC403	EI-356457	IC BU4013B [EM]
L1-A	EO-373260	COIL FIX 1 LAP02 F05 1R0K [EDG]
L1-B	EO-390998J	COIL FIX 1 LAP02 F05 R68K [EK]
L101	EO-345881	COIL FIX 1 EL0606SKI 101J
L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L301	EO-381196J	COIL FIX 1 EL0405SKI 470K
L302	EO-345881	COIL FIX 1 EL0606SKI 101J
L402	EO-357508	COIL FIX 1 LAP02 F05 151K
L403	EO-381192J	COIL FIX 1 EL0405SKI 270K
L404	EO-345880	COIL FIX 1 EL0606SKI 820J
L405	EO-354600	COIL FIX 1 LAP02 F05 101K
L410	EO-345874	COIL FIX 1 EL0606SKI 330J
L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L472	EO-345880	COIL FIX 1 EL0606SKI 820J
L474	EO-388161J	COIL FIX 1 EL0405SKI 560K
L480	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J [EOG/EOG-V]
L500	EO-345880	COIL FIX 1 EL0606SKI 820J
L501	EO-353900	COIL FIX 1 LAP02 F05 150K
L502	EO-345880	COIL FIX 1 EL0606SKI 820J [EM]
L503	EO-353900	COIL FIX 1 LAP02 F05 150K [EM]
L504	EO-353900	COIL FIX 1 LAP02 F05 150K [EM]
L505	EO-345880	COIL FIX 1 EL0606SKI 820J
L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K
L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J
L509	EO-345880	COIL FIX 1 EL0606SKI 820J
L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J
L511	EO-381195J	COIL FIX 1 EL0405SKI 331K
L512	EO-381197J	COIL FIX 1 EL0405SKI 471K
L570	EO-345880	COIL FIX 1 EL0606SKI 820J
L590	EO-387802J	COIL FIX 1 EL0405SKI 330K [EM]
MD1-A	BV-403408J	RF CONVERTER MDLK6E753A EDG [EDG]
MD1-B	BV-387611J1	RF CONVERTER YAA21-0808G EV [EM]
MD1-C	BV-403409J	RF CONVERTER MDLK6D755A EO [EOH/EO/EOG/EOG-V]
MD1-D	BV-403410J	RF CONVERTER MDLK6B733A EK [EK]
PJ101	EJ-387614J	PIN J T6353-ABCB YL BK 4P [EDG/EM]
PJ102	EJ-387613J	SOCKET M1812 21P [EXCEPT EDG/EM]
P303	EJ-388345J	SOCKET HLEM13S-1 13P
P304	EJ-388346J	SOCKET HLEM15S-1 15P
P400	EJ-388345J	SOCKET HLEM13S-1 13P
P401	EJ-394841J	SOCKET HLEM12S-1 12P
R214	ER-403405J	R OMF H S12 FS 1W R75J
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-414816J	TR 2SC2668 Y T05
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	ET-353899	TR 2SA1317 S,T,U [EXCEPT EK]
TR5	ET-353899	TR 2SA1317 S,T,U [EXCEPT EK]
TR7	ET-353899	TR 2SA1317 S,T,U [EXCEPT EK]
TR8	ET-354414	TR DTC144ES [EXCEPT EK]
TR9	ET-354414	TR DTC144ES [EXCEPT EK]
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-353899	TR 2SA1317 S,T,U [EXCEPT EDG/EOH/EOG]
TR14	ET-370310	TR DTC144TS [EOH/EOG]
TR15	ET-353897	TR DTC114ES
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH/EOG/EOG-V]
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V
TR18	ET-397160J	TR 2SC3330 R,S,T,U,V

Ref. No.	Part No.	Description
TR19	ET-354414	TR DTC144ES [EXCEPT EDG]
TR20	ET-405622J	TR 2SD2061 E,F [EOH/EO/EOG/EOG-V]
TR101	ET-354414	TR DTC144ES
TR102	ET-356336	TR DTA114ES
TR103	ET-354414	TR DTC144ES
TR104	ET-353899	TR 2SA1317 S,T,U
TR105	ET-353899	TR 2SA1317 S,T,U
TR107	ET-397160J	TR 2SC3330 R,S,T,U,V
TR108	ET-356336	TR DTA114ES [EXCEPT EDG/EM]
TR109	ET-397160J	TR 2SC3330 R,S,T,U,V
TR201	ET-366168	TR 2SD1292 Q,R [EOG/EOG-V]
TR202	ET-356336	TR DTA114ES
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR205	ET-388338J	TR 2SB1425 S,E
TR209	ET-354414	TR DTC144ES [EOG/EOG-V]
TR210	ET-405622J	TR 2SD2061 E,F
TR211	ET-356336	TR DTA114ES [EOG/EOG-V]
TR301	ET-354414	TR DTC144ES
TR302	ET-397160J	TR 2SC3330 R,S,T,U,V
TR303	ET-363953	TR DTA114TS [EM]
TR304	ET-354415	TR DTA144ES
TR306	ET-354414	TR DTC144ES
TR307	ET-373985	TR DTA144TS
TR308	ET-373985	TR DTA144TS
TR309	ET-373985	TR DTA144TS
TR310	ET-354414	TR DTC144ES
TR312	ET-354415	TR DTA144ES
TR401	ET-356336	TR DTA114ES
TR404	ET-354364	TR DTC143TS
TR406	ET-397160J	TR 2SC3330 R,S,T,U,V
TR407	ET-353899	TR 2SA1317 S,T,U
TR408	ET-354414	TR DTC144ES
TR409	ET-360399	TR DTC114TS
TR410	ET-354414	TR DTC144ES
TR414	ET-388338J	TR 2SB1425 S,E
TR415	ET-353899	TR 2SA1317 S,T,U
TR417	ET-360399	TR DTC114TS
TR421	ET-364040	TR UN421D
TR423	ET-356336	TR DTA114ES
TR425	ET-354414	TR DTC144ES [EM]
TR470	ET-353899	TR 2SA1317 S,T,U
TR471	ET-353899	TR 2SA1317 S,T,U
TR501	ET-353897	TR DTC114ES
TR502	ET-360646	TR DTA143ES [EM]
TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
TR504	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR505	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
TR508	ET-356336	TR DTA114ES
TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR513	ET-356336	TR DTA114ES [EXCEPT EK]
TR514	ET-354414	TR DTC144ES [EXCEPT EK]
TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR572	ET-354414	TR DTC144ES
VR301	EV-397066J	R S-FIX H T05EVNDXAA03 0.1W333
VR401	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR402	EV-389489J	R S-FIX H T05EVNDXAA03 0.1W472
VR403	EV-389482J	R S-FIX H T05EVNDXAA03 0.1W682
VR404	EV-397066J	R S-FIX H T05EVNDXAA03 0.1W333
WF201	EW-404138J1	CORD KX MA-POW L=225 12P
X301	EI-389640N	OSC X'TAL HC-49/U 8000KHZ
X500	EI-381632J	OSC X'TAL 86686 4.433619MHZ

Ref. No.	Part No.	Description
1-A	BV-412399J	VIF UNIT KX-38.9 EDG [EDG]
1-B	BV-403239J1	VIF UNIT KX EM [EM]
1-C	BV-403240J1	VIF UNIT KX EOH [EOH]
1-D	BV-403241J1	VIF UNIT KX EOG [EO]
1-E	BV-416729J	VIF UNIT KX-TEK EOG [EOG/EOG-V]
1-F	BV-403238J1	VIF UNIT KX EK [EK]
2-A	EE-387603J1	TV TUNER TERE1-019B EO [EDG]
2-B	EE-405638J	TV TUNER VTSS6CZ EM [EM]
2-C	EE-412395J	TV TUNER ENV-578C9F1 EOH [EOH]
2-D	EE-387604J3	TV TUNER TERE1-007D EOG [EO]
2-E	EE-416524J	TV TUNER TEKE4-034 EOG [EOG/EOG-V]
2-F	EE-387607J1	TV TUNER TERB1-008B EK [EK]
3-A	SP-395563J	PANEL REAR JACK EDG (2) [EDG]
3-B	SP-388307J	PANEL REAR JACK EA [EM]
3-C	SP-387357J	PANEL REAR JACK EK [EOH/EO/EK]
3-D	SP-388305J	PANEL REAR JACK EOG [EOG/EOG-V]

7. MAIN (B) P.C BOARD

Ref. No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D603	ED-307572	D SILICON H 1SS131 [EXCEPT EK]
D801	ED-307572	D SILICON H 1SS131
D802	ED-386226J	D SCHOTTKY RB100AT-32T26 40/1 [EOG/EOG-V]
D901	ED-307572	D SILICON H 1SS131 [G24EK]
D902	ED-307572	D SILICON H 1SS131 [G24EK]
FL701	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EXCEPT EOH/EO/EK]
FL801	EO-408441J	COIL OSC 1 125-8021-41 70.0KHZ
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC701	EI-366892	IC BA7025L [EXCEPT EOH/EO/EK]
IC702	EI-200573	IC TC4053BP [EM]
IC801	EI-388360J	IC BA7765AS
IC902	EI-310036	IC TC4066BP [G24EK]
L601	EO-345881	COIL FIX 1 EL0606SKI 101J [G24EK]
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L603	EO-351866	COIL FIX 1 LAP02 F05 330K [EXCEPT EK]
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [EXCEPT EOH/EO/EK]
L702	EO-345881	COIL FIX 1 EL0606SKI 101J [EM]
L703	EO-368129	COIL FIX 1 TL-8 153J [EXCEPT EOH/EO/EK]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L850	EO-397389J	COIL FIX 1 EL0606SKI 4R7J [EOG-V]
L901	EO-345881	COIL FIX 1 EL0606SKI 101J [G24EK]
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR604	ET-397160J	TR 2SC3330 R,S,T,U,V [EXCEPT EK]
TR605	ET-356336	TR DTA114ES [EXCEPT EK]
TR606	ET-356336	TR DTA114ES [EXCEPT EK]
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-353899	TR 2SA1317 S,T,U
TR609	ET-354414	TR DTC144ES [EXCEPT EK]
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [EXCEPT EOH/EO/EK]
TR702	ET-397160J	TR 2SC3330 R,S,T,U,V [EXCEPT EOH/EO/EK]
TR751	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR752	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR753	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR754	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
TR803	ET-354414	TR DTC144ES [EM]
TR901	ET-354414	TR DTC144ES [G24EK]
TR902	ET-354414	TR DTC144ES [G24EK]
TR903	ET-397160J	TR 2SC3330 R,S,T,U,V [G24EK]
TR904	ET-353899	TR 2SA1317 S,T,U [G24EK]
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802	EV-405263J	R S-FIX V T05EVNDCAA03 0.1W104
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

8. PRE AMP P.C BOARD

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
IC1	EI-403250J	IC LA7376
L1	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L2	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L3	EO-381195J	COIL FIX 1 EL0405SKI 331K
L4	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L5-A	EO-381191J	COIL FIX 1 EL0405SKI 181K [EK]
L5-B	EO-388088J	COIL FIX 1 EL0405SKI 151K [EXCEPT EK]
L6	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L7	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L8-A	EO-381193J	COIL FIX 1 EL0405SKI 271K [EK]
L8-B	EO-387803J	COIL FIX 1 EL0405SKI 221K [EXCEPT EK]
L9	EO-345880	COIL FIX 1 EL0606SKI 820J
L10	EO-345880	COIL FIX 1 EL0606SKI 820J
L13	EO-345880	COIL FIX 1 EL0606SKI 820J
L14	EO-376860	COIL FIX 1 LF-5.0S F05 820K
PS1	EJ-381075J	SOCKET HOUSING 5062-30-10-12
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	ET-353899	TR 2SA1317 S,T,U
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-364040	TR UN421D
TR5	ET-397160J	TR 2SC3330 R,S,T,U,V
TR6	ET-353899	TR 2SA1317 S,T,U
TR7	ET-360399	TR DTC114TS [EXCEPT EK]
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-360399	TR DTC114TS [EM]
TR10	ET-364040	TR UN421D
TR11	ET-354414	TR DTC144ES [EXCEPT EK]
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-353899	TR 2SA1317 S,T,U
TR14	ET-353899	TR 2SA1317 S,T,U
TR15	ET-360399	TR DTC114TS
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V
VR1	EV-403988J	R S-FIX V T05EVNDCAA03 0.1W102
VR2	EV-403988J	R S-FIX V T05EVNDCAA03 0.1W102
VR3	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
WP1	EW-403256J1	CORD FFC P1.25 L=230 12P

9. OPERATION P.C BOARD

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131 [EDG/EM]
D2	ED-307572	D SILICON H 1SS131 [EK/EM/EOG/EOG-V]
D3	ED-307572	D SILICON H 1SS131 [EDG]
D4	ED-307572	D SILICON H 1SS131 [EO]
D5	ED-307572	D SILICON H 1SS131 [EM]
D9	ED-307572	D SILICON H 1SS131 [G24EK]
D10	ED-307572	D SILICON H 1SS131 [EOG/EOG-V]
D11	ED-307572	D SILICON H 1SS131 [EOG-V]
D12	ED-403279J	D ZENER H UTZJ9.1B
D13	ED-403278J	D ZENER H UTZJ7.5B
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D16	ED-307572	D SILICON H 1SS131
D17	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A [EOG/EOG-V]
D18	ED-307572	D SILICON H 1SS131
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D22	ED-307572	D SILICON H 1SS131
FL1	EM-401077J	IND FL FV496G CHARACTER
IB1	EH-403945J	COMP R RGLE9X 103J
IB2	EH-383083J	COMP R RGLE3X 103J
IB3	EH-383056J	COMP R RGLE4X 103J [EOG-V/G24EK]
IC1-A	EI-414817J	IC UPD75217CW-185 QBXOPP1 [EXCEPT EOG/EOG-V]
IC1-B	EI-416736J	IC UPD75217CW-194 QBXOPG1 [EOG/EOG-V]
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
L1	EO-353587	COIL FIX 1 LAP02 F05 220K
L2	EO-353587	COIL FIX 1 LAP02 F05 220K
PH1	ET-411995J	DETECTOR GP1U581X
P2	EJ-397357J	SOCKET HLEM13R-1 13P
P3	EJ-414768J	SOCKET HLEM15R-1 15P
SW1	ES-408405J	SW TACT EVQ 235 09K T05
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW10	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
X1	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ
X2	EI-368825	OSC X'TAL MX-38T 32.768KHZ
1	EW-414866J	CORD FFC BD P1.25 L=130 13P
2	EW-414864J	CORD FFC BD P1.25 L=110 15P

10. PIN JACK P.C BOARD (G24EK)

Ref. No.	Part No.	Description
D23	ED-307572	D SILICON H 1SS131
D24	ED-307572	D SILICON H 1SS131
PJ1	EJ-387622J	PIN J JPJ5022-01-010 1P
PJ2	EJ-387623J	PIN J JPJ5022-01-040 1P

11. VIF UNIT (EXCEPT EDG)

Ref. No.	Part No.	Description
CF1-A	EH-730625J	FILTER CE SAF38.9MZW70Z [EXCEPT EK]
CF1-B	EH-714628	FILTER SAW SAF39.5MZ70Z [EK]
CF2-A	EH-373920	FILTER CE SFE5.5MB [EXCEPT EK]
CF2-B	EH-373921	FILTER CE SFE6.0MB [EK]
CF3-A	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EXCEPT EM/EK]
CF3-B	EH-729986J	FILTER CE TPS5.5MB2 [EM]
CF3-C	EH-373919	FILTER CE TPS6.0MB [EK]
IC1	EI-368809	IC M51496P
L1	EO-387800J	COIL FIX 1 EL0405SKI 2R7K
L3-A	EH-733514J	COIL SIF DET 6F16437A1 [EXCEPT EK]
L3-B	EO-732831J	COIL SIF DET 6F16437A2 [EK]
L4	EO-732832J	COIL AFT 6F16435A1
L5	EO-732833J	COIL TANK 7KL 6F16436A1
L6-A	EO-387799J	COIL FIX 1 EL0405SKI 180K [EXCEPT EK]
L6-B	EO-387798J	COIL FIX 1 EL0405SKI 150K [EK]
L7-A	EO-387799J	COIL FIX 1 EL0405SKI 180K [EXCEPT EK]
L7-B	EO-387798J	COIL FIX 1 EL0405SKI 150K [EK]
L8	EO-387802J	COIL FIX 1 EL0405SKI 330K
L51	EO-725964J	COIL TRAP 6F16222A1 [EO/EOG/EOG-V]
L52	EO-725965J	COIL TRAP 6F16223A1 [EO/EOG/EOG-V]
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E.F
Q51	ET-724885J	TR CHIP RT1N141C [EO/EOG/EOG-V]
Q52	ET-724885J	TR CHIP RT1N141C [EO/EOG/EOG-V]
VR2	EV-396023J	R S-FIX H T05EVNDXAA03 0.1W222
VR51	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223
VR52	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223 [EO/EOG/EOG-V]

12. VIF UNIT (EDG)

Ref. No.	Part No.	Description
CF1	EH-394874J	FILTER CE SAF38.9MZA70Z
CF2	EH-376338	FILTER CE TPS6.5MB
CF3	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ
CF4	EH-373918	FILTER CE TPS5.5MB
CF51	EH-412432J	FILTER CE SFSH6.5MDB 6.500MHZ
CF52	EH-368827	FILTER CE SFS5.5MD 5.500MHZ
CF53	EH-373921	FILTER CE SFE6.0MB
IC1	EI-368809	IC M51496P
L1	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
L2	EO-732831J	COIL SIF DET 6F16437A2
L3	EO-732832J	COIL AFT 6F16435A1
L4	EO-732833J	COIL TANK 7KL 6F16436A1
L5	EO-397238J	COIL FIX 1 EL0405SKI 6R8K
L6	EO-387798J	COIL FIX 1 EL0405SKI 150K
L51	EO-396361J	COIL FIX 1 EL0405SKI 8R2K
L52	EO-387803J	COIL FIX 1 EL0405SKI 221K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E.F
Q3	ET-370819	TR.CHIP 2SC3052
Q4	ET-713614	TR CHIP 2SA1235 E.F
Q51	ET-370819	TR.CHIP 2SC3052
Q52	ET-370819	TR.CHIP 2SC3052
VR1	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223
VR2	EV-396023J	R S-FIX H T05EVNDXAA03 0.1W222
X51	EI-368829	OSC CE CSB512P

13. POWER P.C BOARD (EXCEPT EM/EOG-V)

Ref. No.	Part No.	Description
C1	EC-414869J	C EC V CUT GXB12 222M 25.0DC
C2	EC-411667J	C EC V CUT GXB16 472M 16.0DC
C3	EC-414870J	C EC V CUT GXB16 222M 35.0DC
C4	EC-414878J	C EC V CUT LLA 470M 100.0DC
C5	EC-414878J	C EC V CUT LLA 470M 100.0DC
D1	*ED-511907	D SILICON 1N4002 100/1.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D5	*ED-511907	D SILICON 1N4002 100/1.0A [EDG/EK]
D6	*ED-511907	D SILICON 1N4002 100/1.0A [EDG/EK]
D7	*ED-511907	D SILICON 1N4002 100/1.0A [EDG/EK]
D8	*ED-511907	D SILICON 1N4002 100/1.0A [EDG/EK]
D9	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
D10	*ED-511907	D SILICON 1N4002 100/1.0A [EDG/EK]
D11	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
D12	*ED-511907	D SILICON 1N4002 100/1.0A [EDG/EK]
D13	ED-397319J	D ZENER H HZS15-2
D14	ED-408912J	D ZENER H HZS36-3
D15	ED-402230J	D ZENER H HZS36-1
D17	*ED-511907	D SILICON 1N4002 100/1.0A [EDG/EK]
D18	*ED-511907	D SILICON 1N4002 100/1.0A [EDG/EK]
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D22-A	ED-402204J	D ZENER H HZS11A3 [EDG/EK]
D22-B	ED-396058J	D ZENER H HZS12B3 [EOH/EO/EOG]
D23	ED-403743J	D ZENER H HZS6B3
FL1	EO-339907	COIL LF FKOB160MH16 1000.0UH [EOG]
FR1	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR2	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR3	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR4	*ER-328519	R FUSE H S10 ERD2FC 1/4W 68R0G
FR5	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
TR1	*ET-381175J	TR 2SD1856
TR2	*ET-408842J	TR 2SD2394 E,F
TR3	*ET-408842J	TR 2SD2394 E,F
TR4	*ET-411668J	TR 2SD2395 E,F
TR5	*ET-408841J	TR 2SB1565 E,F
TR6	*ET-388338J	TR 2SB1425 S,E
TR7	*ET-397160J	TR 2SC3330 R,S,T,U,V

14. DIODE P.C BOARD (EOH/EO/EOG)

Ref. No.	Part No.	Description
D24	*ED-379298	D SILICON DBA20B 100/2.0A

15. POWER SUPPLY (1) P.C BOARD (EM)

Ref. No.	Part No.	Description
C1	EC-408376J	C EC V CUT KMG 102M 50.0DC
C2	EC-410530J	C EC V CUT KMG 332M 50.0DC
C3	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C4	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C14	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C15	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C20	EC-403371J	C EC V F05 LXF8 221M 25.0DC
C23	EC-404197J	C EC V T05 SXE8 330M 80.0DC
C24	EC-404197J	C EC V T05 SXE8 330M 80.0DC
C101	*EC-389414J	C CE V DE7090 B102K 400AC
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D8	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D11	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D16	ED-307572	D SILICON H 1SS131
D17	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
D18	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
D19	ED-404032J	D ZENER H UTZJ39A
D20	ED-405524J	D ZENER H MTZJ36A T26
D27	ED-404387J	D ZENER H HZS16-1
D28	ED-391005J	D ZENER H HZS12B1
D54	ED-307572	D SILICON H 1SS131
D55	ED-307572	D SILICON H 1SS131
D57	ED-307572	D SILICON H 1SS131
D58	ED-405264J	D ZENER H UTZJ10C
D71	*ED-511907	D SILICON 1N4002 100/1.0A
D72	*ED-511907	D SILICON 1N4002 100/1.0A
D73	*ED-511907	D SILICON 1N4002 100/1.0A
D74	*ED-511907	D SILICON 1N4002 100/1.0A
D101	*ED-511907	D SILICON 1N4002 100/1.0A
D102	ED-403947J	D ZENER H UTZJ22C T26
D103	ED-307572	D SILICON H 1SS131
D104	ED-404031J	D ZENER H UTZJ11B T26
D106	ED-401046J	D SILICON RL104F-E T26 400/1A
D107	ED-403948J	D ZENER H UTZJ16C T26
D108	ED-405265J	D ZENER H UTZJ36C
D109	ED-405265J	D ZENER H UTZJ36C
F101	*EF-413079J	FUSE S505 T 250V 1.00A
FR1	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR2	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR3	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
FR4	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR5	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
FR102	*ER-401039J	R FUSE V T05 ERD2FCV 1/4W 4R7J
L1	EO-408381J	COIL FIX 2 C-5344-40 560K
L2	EO-408381J	COIL FIX 2 C-5344-40 560K
L3	EO-408381J	COIL FIX 2 C-5344-40 560K
L4	EO-408381J	COIL FIX 2 C-5344-40 560K
L6	EO-386541J	COIL FIX 1 ELF1010SKI 101K
L9	EO-410254J	COIL FIX 1 LHL06TB T05 681K
RL101	*EQ-400153J	RELAY POW AG2013 1TR 12V
TR1	*ET-366365	TR 2SB1185 E,F
TR5	*ET-366365	TR 2SB1185 E,F
TR6	ET-356817	TR 2SB891 Q,R
TR9	*ET-366365	TR 2SB1185 E,F
TR12	*ET-405622J	TR 2SD2061 E,F
TR13	*ET-366365	TR 2SB1185 E,F
TR14	ET-360399	TR DTC114TS
TR15	ET-360399	TR DTC114TS
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V
TR101	ET-389803J	TR 2SA933S R,S
TR102	ET-400218J	TR 2SC1740S R,S
TR103	ET-366168	TR 2SD1292 Q,R
TR104	ET-366365	TR 2SB1185 E,F
TR106	ET-389803J	TR 2SA933S R,S
TR107	*ET-404195J	TR 2SC4486 S,T T05

16. POWER SUPPLY (2) P.C BOARD (EM)

Ref. No.	Part No.	Description
D7	ED-405264J	D ZENER H UTZJ10C
D10	ED-307572	D SILICON H 1SS131
D50	ED-403732J	D ZENER H UTZJ5.6A
D56	ED-410359J	D ZENER H HZS15-1 T26
IC1	*EI-381575J	IC BA6121
L10	EO-380091J1	COIL FIX 2 C-5293-01 560K
TR2	*ET-405622J	TR 2SD2061 E,F
TR3	ET-389803J	TR 2SA933S R,S
TR4	*ET-366168	TR 2SD1292 Q,R
TR7	*ET-405622J	TR 2SD2061 E,F
TR8	ET-389803J	TR 2SA933S R,S
TR50	ET-353897	TR DTC114ES

17. DIODE P.C BOARD (EM)

Ref. No.	Part No.	Description
D60	*ED-379298	D SILICON DBA20B 100/2.0A

18. POWER SUPPLY (1) P.C B0ARD (EOG-V)

Ref. No.	Part No.	Description
C1	EC-404196J	C EC V SXE12 102M 35.0DC
C2	EC-406635J	C EC V SXE16 222M 35.0DC
C4	EC-405269J	C EC V F05 LXF8 121M 35.0DC
C14	EC-405269J	C EC V F05 LXF8 121M 35.0DC
C15	EC-405269J	C EC V F05 LXF8 121M 35.0DC
C20	EC-403371J	C EC V F05 LXF8 221M 25.0DC
C23	EC-412318J	C EC V T05 LXA8 330M 63.0DC
C24	EC-412136J	C EC V F05 LXF8 820M 63.0DC
C73	EC-403285J	C EC V T05 LXF6 121M 25.0DC
D1	*ED-511907	D SILICON 1N4002 100/1.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D8	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D11	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D16	ED-366684	D SILICON H 1SS136 F05
D17	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
D18	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
D19	ED-404032J	D ZENER H UTZJ39A
D20	ED-404033J	D ZENER H UTZJ33B
D27	ED-403265J	D ZENER H UTZJ15A T26
D30	ED-412105J	D ZENER H HZS5B1 T26
D32	ED-307572	D SILICON H 1SS131
D71	*ED-511907	D SILICON 1N4002 100/1.0A
D72	*ED-511907	D SILICON 1N4002 100/1.0A
D73	*ED-511907	D SILICON 1N4002 100/1.0A
D74	*ED-511907	D SILICON 1N4002 100/1.0A
D75	*ED-511907	D SILICON 1N4002 100/1.0A
D76	*ED-511907	D SILICON 1N4002 100/1.0A
D77	*ED-511907	D SILICON 1N4002 100/1.0A
D78	*ED-511907	D SILICON 1N4002 100/1.0A
D80	ED-403267J	D ZENER H MTZJ3.3B T26
D82	ED-403279J	D ZENER H UTZJ9.1B
D83	ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D88	ED-307572	D SILICON H 1SS131
D89	ED-307572	D SILICON H 1SS131
FL1	EO-339907	COIL LF FKOB160MH16 1000.0UH
FR1	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR2	*ER-400688J	R FUSE V T05 RF25SCVTP1/4WR10K
FR3	*ER-328278	R FUSE H ERD2FC 1/4W 10R0G
FR4	*ER-307565	R FUSE H S10 ERD2FC 1/4W 6R8J
FR5	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
L1	EO-408381J	COIL FIX 2 C-5344-40 560K
L2	EO-408381J	COIL FIX 2 C-5344-40 560K
L3	EO-408381J	COIL FIX 2 C-5344-40 560K
L4	EO-408381J	COIL FIX 2 C-5344-40 560K
L6	EO-386541J	COIL FIX 1 ELF1010SKI 101K
L9	EO-410254J	COIL FIX 1 LHL06TB T05 681K
R78	*ER-368461	R OMF H S12 FS 1W R22J
TR1	*ET-366365	TR 2SB1185 E,F
TR5	*ET-366365	TR 2SB1185 E,F
TR6	ET-356817	TR 2SB891 Q,R

Ref. No.	Part No.	Description
TR7	*ET-391025J	TR 2SD2012
TR9	*ET-366365	TR 2SB1185 E,F
TR12	*ET-408842J	TR 2SD2394 E,F
TR13	*ET-366365	TR 2SB1185 E,F
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-397160J	TR 2SC3330 R,S,T,U,V
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V
TR71	ET-353897	TR DTC114ES
TR72	ET-353897	TR DTC114ES
TR75	ET-354083	TR 2SD1189 Q,R

19. POWER SUPPLY (2) P.C BOARD (EOG-V)

Ref. No.	Part No.	Description
C25	EC-408426J	C EC V F05 LXF8 121M 50.0DC
D31	ED-307572	D SILICON H 1SS131
D84	ED-307572	D SILICON H 1SS131
D85	ED-307572	D SILICON H 1SS131
D87	ED-403267J	D ZENER H MTZJ3.3B T26
IC1	*EI-381575J	IC BA6121
L10	EO-380091J1	COIL FIX 2 C-5293-01 560K
R77	*ER-368461	R OMF H S12 FS 1W R22J
TR2	*ET-391025J	TR 2SD2012
TR3	ET-389803J	TR 2SA933S R,S
TR8	ET-389803J	TR 2SA933S R,S
TR73	*ET-391025J	TR 2SD2012

20. VPS P.C BOARD (EOG)

Ref. No.	Part No.	Description
C601	EC-366613	C EC V CUT SME 102M 25.0DC
D1	ED-307572	D SILICON H 1SS131
D601	ED-307572	D SILICON H 1SS131
D602	ED-405446J	D ZENER H UTZJ5.6B T26
FR601	*ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J
IB401	EH-386637J	COMP R RGLE8X 103J
IC301	EI-385958J	IC SAA4700
IC401	EI-408430J1	IC UPD75004CU-148 JXVPS2
L1	EO-345865	COIL FIX 1 EL0606SKI 100J
L301	EO-345865	COIL FIX 1 EL0606SKI 100J
L401	EO-345865	COIL FIX 1 EL0606SKI 100J
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR601	ET-354083	TR 2SD1189 Q,R
X401	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ

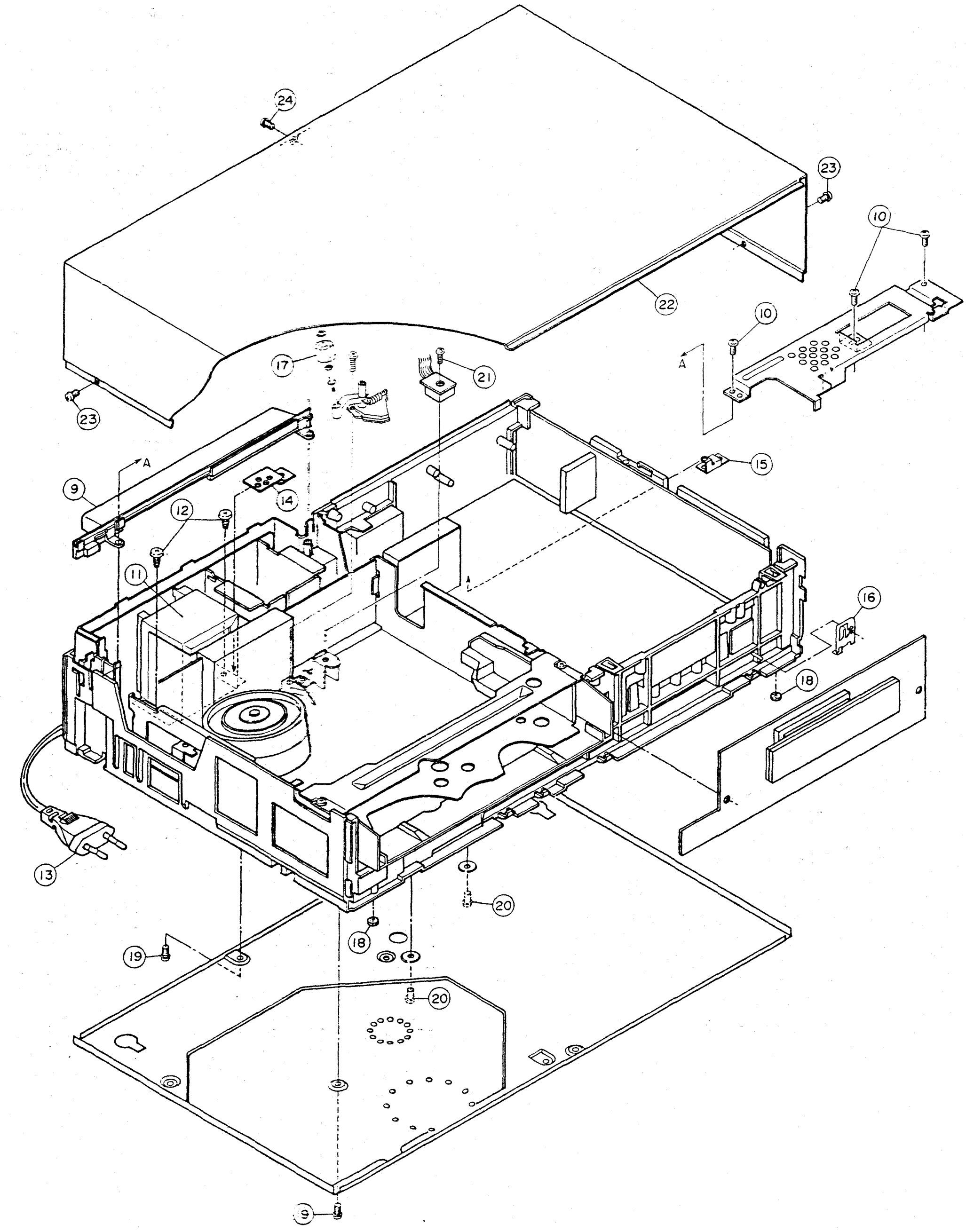
21. VPST P.C BOARD (EOG-V)

Ref. No.	Part No.	Description
C601	EC-366613	C EC V CUT SME 102M 25.0DC
D1	ED-307572	D SILICON H 1SS131
D201	ED-307572	D SILICON H 1SS131
D601	ED-307572	D SILICON H 1SS131
D602	ED-405446J	D ZENER H UTZJ5.6B T26
FL101	EH-394684J	FILTER EMI ZBF503D-00TA T05
FR601	*ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J
IB101	EH-383056J	COMP R RGLE4X 103J
IC101	EI-416782J	IC UPD78014CW-019 QXVPT1
IC102	EI-410265J	IC ST24C04B1
IC103	EI-405224J	IC ST24C02AB1/AAB
IC104	EI-414884J	IC CF72307
IC105	EI-410125J	IC V53C464AP-80
IC106	EI-401050J	IC LVA523SA2
IC107	EI-394680J	IC AN3171K
IC108	EI-387019J	IC MC1377P
IC109	EI-414885J	IC CF72306
IC301	EI-385958J	IC SAA4700
L2	EO-345865	COIL FIX 1 EL0606SKI 100J
L3	EO-345865	COIL FIX 1 EL0606SKI 100J
L4	EO-345865	COIL FIX 1 EL0606SKI 100J
L5	EO-345865	COIL FIX 1 EL0606SKI 100J
L6	EO-345865	COIL FIX 1 EL0606SKI 100J
L121	EO-345865	COIL FIX 1 EL0606SKI 100J
L151	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L152	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L153	EO-345880	COIL FIX 1 EL0606SKI 820J
L154	EO-410099J	COIL FIX 1 SPT0203SA T26 470J
L155	EO-345865	COIL FIX 1 EL0606SKI 100J
L201	EO-345865	COIL FIX 1 EL0606SKI 100J
L202	EO-345865	COIL FIX 1 EL0606SKI 100J
L203	EO-345875	COIL FIX 1 EL0606SKI 390J
L204	EO-345873	COIL FIX 1 EL0606SKI 270J
L206	EO-345871	COIL FIX 1 EL0606SKI 180J
L207	EO-345874	COIL FIX 1 EL0606SKI 330J
L208	EO-345874	COIL FIX 1 EL0606SKI 330J
L301	EO-345865	COIL FIX 1 EL0606SKI 100J
L302	EO-345865	COIL FIX 1 EL0606SKI 100J
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-354415	TR DTA144ES
TR151	ET-397160J	TR 2SC3330 R,S,T,U,V
TR152	ET-353899	TR 2SA1317 S,T,U
TR153	ET-353899	TR 2SA1317 S,T,U
TR154	ET-397160J	TR 2SC3330 R,S,T,U,V
TR155	ET-397160J	TR 2SC3330 R,S,T,U,V
TR201	ET-397160J	TR 2SC3330 R,S,T,U,V
TR202	ET-397160J	TR 2SC3330 R,S,T,U,V
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR204	ET-353899	TR 2SA1317 S,T,U
TR208	ET-353899	TR 2SA1317 S,T,U
TR601	ET-354083	TR 2SD1189 Q,R
X101	EI-414889J	OSC CE CST10.0MTW-TF01 T05
X102	EI-394675J	OSC X'TAL HC-49/U 13875KHZ
X103	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ

22. SUB P.C BOARD (EM)

Ref. No.	Part No.	Description
C1	EC-365397	C EC V CUT SME 332M 10.0DC
C2	EC-365397	C EC V CUT SME 332M 10.0DC
D1	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A
D2	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A
D3	ED-403267J	D ZENER H MTZJ3.3B T26
TR1	ET-366365	TR 2SB1185 E,F
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V

FINAL ASSEMBLY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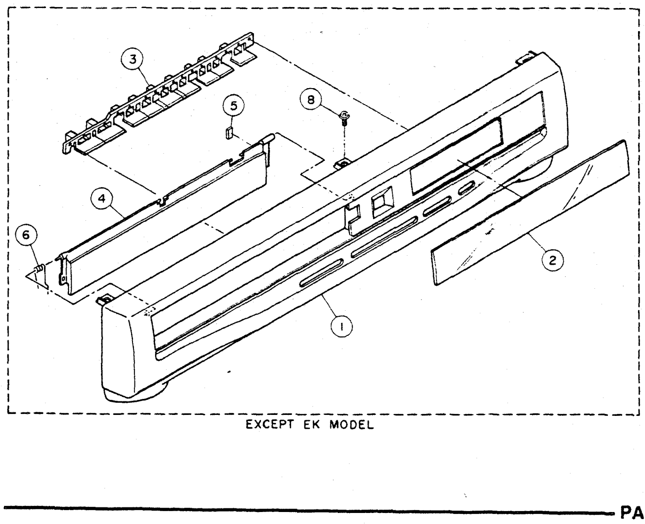

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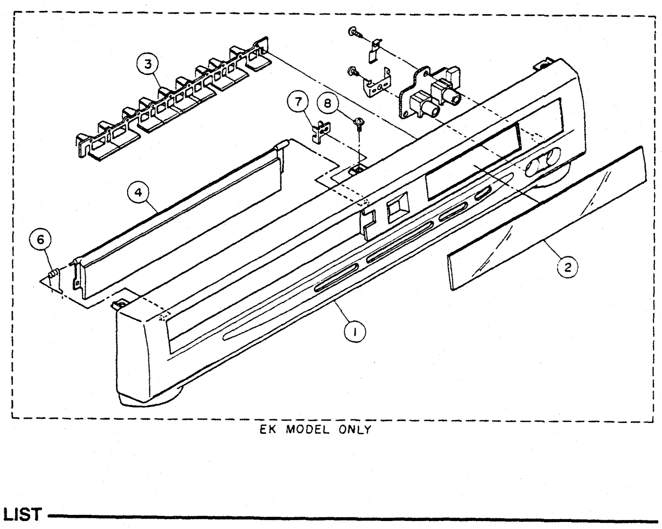


EK MODEL ONLY

23. FINAL ASSEMBLY

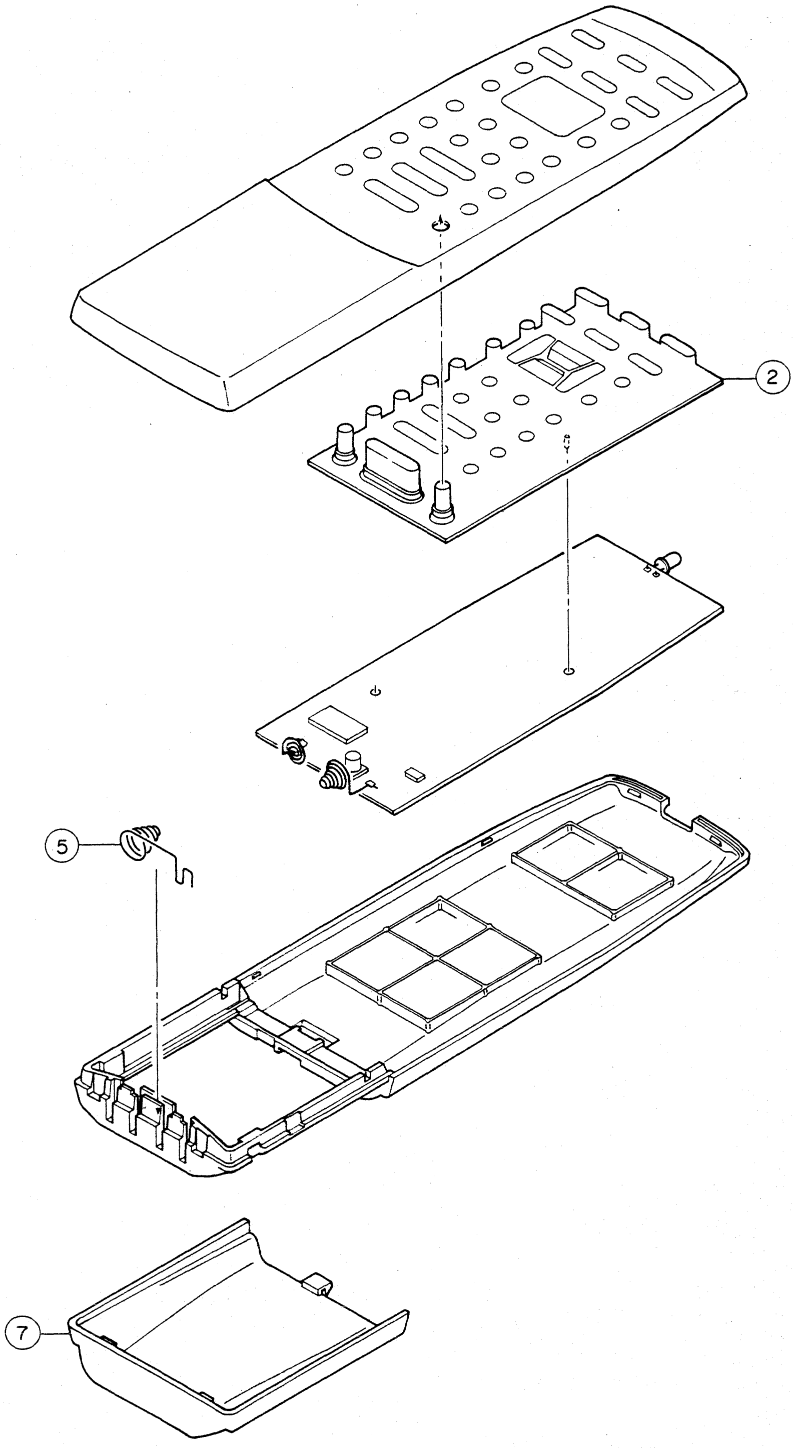
Ref. No.	Part No.	Description
1-A	SP-415654J	PANEL FRONT (C) E [EXCEPT EOG/EOG-V/G24EK]
1-B	SP-415838J	PANEL FRONT (C) G [EOG/EOG-V]
1-C	SP-415485E	PANEL FRONT (B) E (FR) [G24EK]
2-A	SE-415816J	WINDOW FLD (C) 2 [EDG]
2-B	SE-415825J	WINDOW FLD (C) 3 [EM]
2-C	SE-415651J	WINDOW FLD (C) [EO/EOH/G20EK]
2-D	SE-415834J	WINDOW FLD (C) 4 [EOG]
2-E	SE-416168J	WINDOW FLD (C) 7 [EOG-V]
2-F	SE-416260E	WINDOW FLD (C) 8 (FR) [G24EK]
3-A	SB-415652J	BUTTON OP (C) [EXCEPT G24EK]
3-B	SB-415483E	BUTTON OP (FR) [G24EK]
4-A	SE-415829J	MASK CASSETTE VS-G20 (E1) [EDG/G20EK]
4-B	SE-415832J	MASK CASSETTE VS-G20 (E2) [EM]
4-C	SE-415835J	MASK CASSETTE VS-G20 (E3) [G20EOH]
4-D	SE-415836J	MASK CASSETTE VS-G21 (E) [G21EOH]
4-E	SE-415837J	MASK CASSETTE VS-G23 (E) [G23EOH]
4-F	SE-415831J	MASK CASSETTE VS-G20EO [EO]
4-G	SE-415839J	MASK CASSETTE VS-G24 (G) [EOG]
4-H	SE-415841J	MASK CASSETTE VS-G25 (G) [EOG-V]
4-J	SE-416167E	MASK CASSETTE VS-G24 (E) (FR) [G24EK]
5	SZ-407193J	CUSHION MASK (2)
6	ZG-387370J	SP MASK
7	SZ-401874J	STOPPER MASK [G24EK]
8	ZS-357946	PLX PAN30X10STL CMT C080
9	SC-387353J	COVER TRANS
10	ZS-378341	PLX BID30X12STL CMT
11-A	*BT-410491J	TRANS POW V1130 EDG [EDG]
11-B	*BT-410488J	TRANS POW V1130 EM [EM]
11-C	*BT-403873J	TRANS POW V1130 EO [EOH/EO/EOG]
11-D	*BT-410606J	TRANS POW V1146 EOG-V [EOG-V]
11-E	*BT-416855J	TRANS POW V1164 EA [EK]
12	ZS-373962	PLX BID40X10STL CMT
13-A	EW-404002M	AC CORD 200 SE-1 WITH TUBE E [EXCEPT EK]
13-B	EW-414845E	AC CORD 200 'V1164 WITH TUBE B [EK]
14	ZG-387505J	PLATE EARTH
15	ZG-387354J	PLATE EARTH (2)
16	ZG-392214J1	PLATE EARTH (3)
17	HZ-408193J	ROLLER HEAD CLEANER [EXCEPT EK]
18	SA-387507J	FOOT SX
19	ZS-358936	ST BID30X06STL CMT
20	ZS-362378	PLX BID30X10STL CMT
21	ZS-393459J	DT BID26X10STL CMT
22	SP-407479J	COVER UPPER JX
23	ZS-385611J	DT BID26X06STL BNI
24	ZS-391046J	PLX BID26X10STL BNI

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

24. ACCESSARY

Ref. No.	Part No.	Description
1	EW-348414	CORD PAL
2-A	AV-B1038A010A	REMOCON BLK RC-V250E [EXCEPT EOG/G23EOH/EOG-V/G24EK]
2-B	AV-B1050A010D	REMOCON BLK RC-W202G [EOG]
2-C	AV-B1050A010A	REMOCON BLK RC-W202E [G23EOH]
2-D	AV-B1051A010B	REMOCON BLK RC-W201G [EOG-V]
2-E	AV-B1065A010A	REMOCON BLK RC-W212E [G24EK]

REMOCON RC-V250E



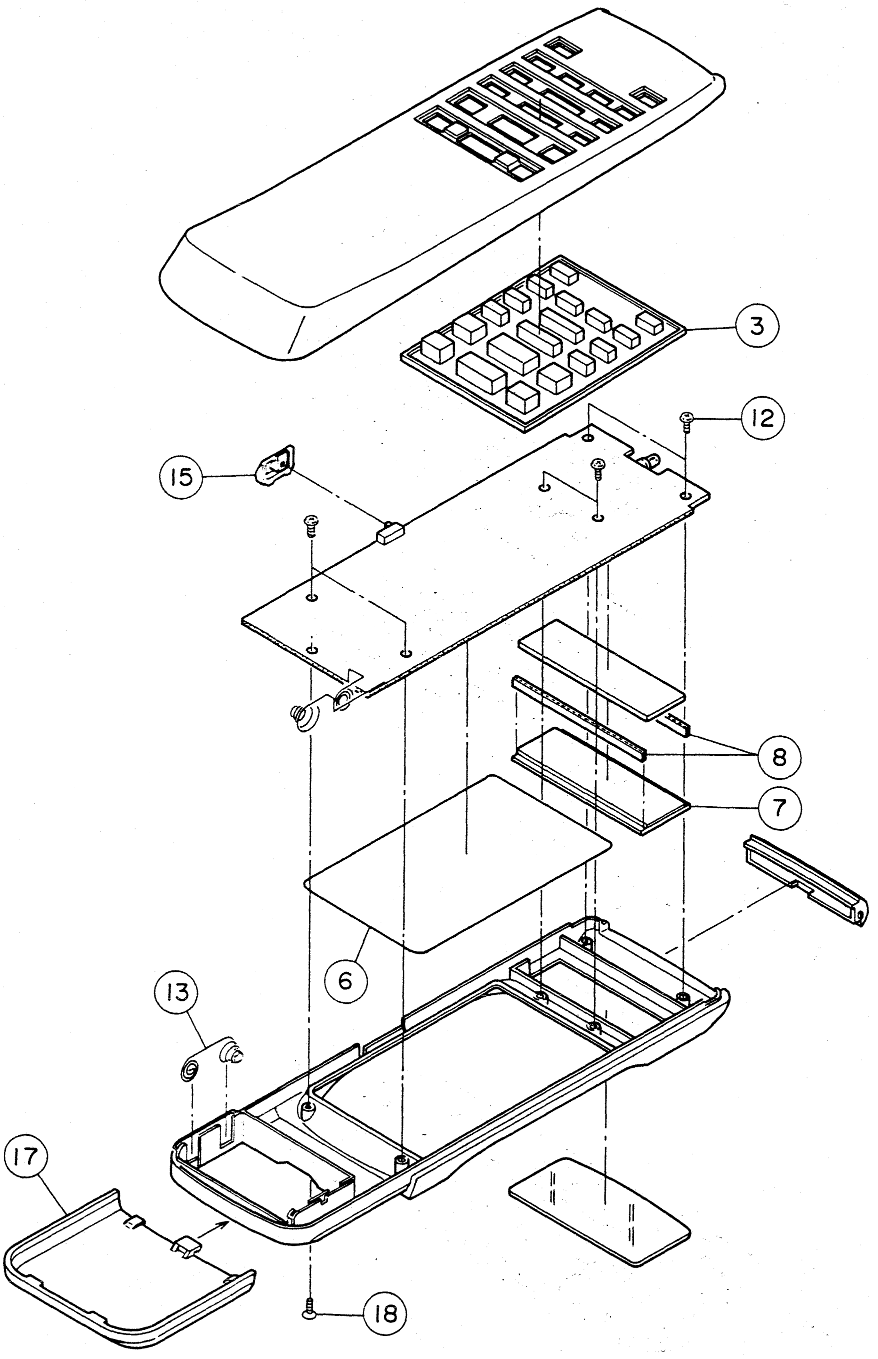
25. REMOCON RC-V250E

Ref. No.	Part No.	Description
2	MB-407424J1	KEY RUBBER
5	ZG-406719J	TERMINAL BATTERY (A3)
7	SC-407425J	COVER BATTERY

26. REMOCON P.C BOARD RC-V250

Ref. No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-386031J	D SILICON CHIP MA110-TW
D3	ED-386031J	D SILICON CHIP MA110-TW
D4	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-376112	IC UPD6122G
TR1	ET-413009J	TR CHIP 2SC2884-Y TE12R T12E
X1	EI-390687J	OSC CE CSU455PL 455KHZ
1	ZG-406720J	TERMINAL BATTERY (A1)
2	ZG-406722J	TERMINAL BATTERY (A2)

REMOCON RC-W202E/G



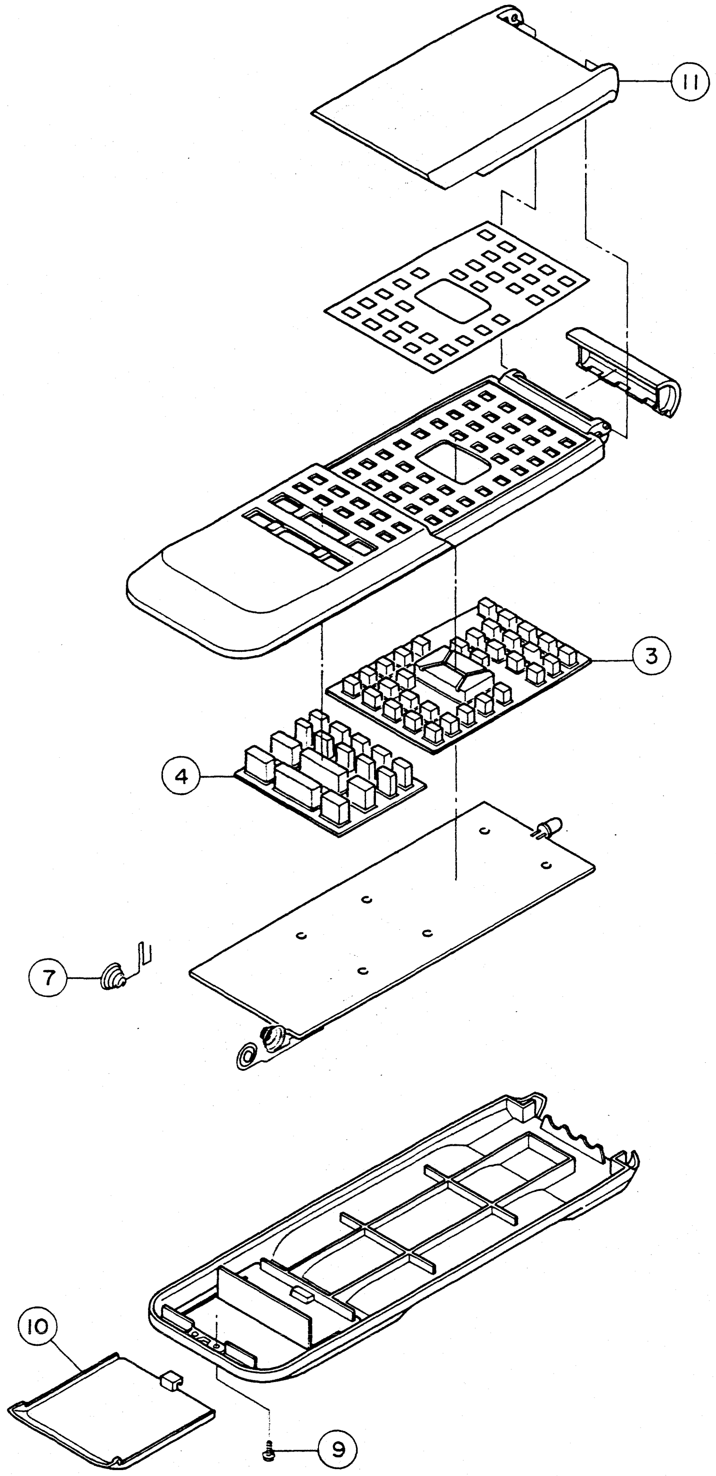
27. REMOCON RC-W202E/G

Ref. No.	Part No.	Description
3	MB-414326J	KEY RUBBER
6-A	EZ-414327J	IND NAME PLATE (1)-E [W202E]
6-B	EZ-415490J	IND NAME PLATE (1)-G [W202G]
7	EM-408437J	IND LCD LD-B5444A ENGLISH
8	EJ-412291J	TERMINAL LCD (6) B1043
12	ZS-414462J	PT BID20X05STL BNI
13	ZG-414335J	TERMINAL BATTERY (B3)
15	SK-414322J	SLIDE KNOB
17	SC-414324J	COVER BATTERY
18	ZS-415396J	PT CTS20X08STL CMT

28. REMOCON P.C BOARD RC-W202

Ref. No.	Part No.	Description
D1	ED-416503J	D LED SID1010CXM LF51 INFRARED
IC1	EI-412300J	IC M50933-131FP QXDLCD1
IC2	EI-400672J	IC S-8052ALB-LE
SW1	ES-414811J	SW SLIDE CHIP SSSS21 01-02N
SW2	ES-394558J	SW TACT SKHRAA
TR1	ET-413009J	TR CHIP 2SC2884-Y TE12R T12E
X1	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
X2	EI-403451J	OSC CE CSB1200J 1.200MHZ
1	ZG-415292J	TERMINAL BATTERY (B1)
2	ZG-415294J	TERMINAL BATTERY (B2)

REMOCON RC-W201G



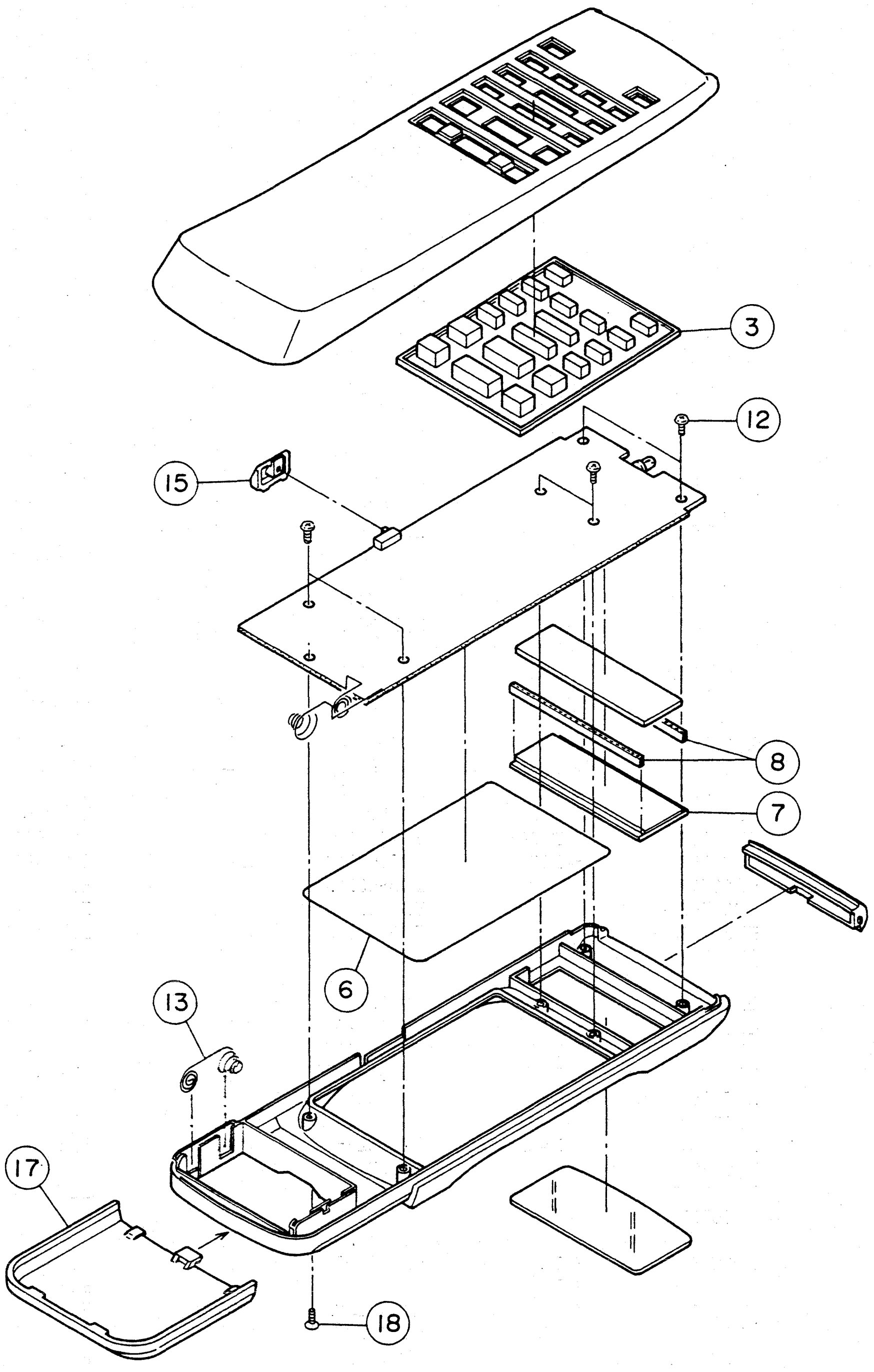
29. REMOCON RC-W201G

Ref. No.	Part No.	Description
3	MB-415211J	KEY RUBBER (A7)
4	MB-415216J	KEY RUBBER (B)
7	ZG-413475J	TERMINAL BATTERY (B3)
9	ZS-374389	PT BID20X06STL BNI
10	SC-415208J	COVER BATTERY
11	SP-415210J	DOOR PANEL

30. REMOCON P.C BOARD RC-W201

Ref. No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-386031J	D SILICON CHIP MA110-TW
D3	ED-386031J	D SILICON CHIP MA110-TW
D4	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-376112	IC UPD6122G
TR1	ET-413009J	TR CHIP 2SC2884-Y TE12R T12E
X1	EI-390687J	OSC CE CSU455PL 455KHZ
1	ZG-413476J1	TERMINAL BATTERY (B1)
2	ZG-413477J	TERMINAL BATTERY (B2)

REMOCON RC-W212E



31. REMOCON RC-W212E

Ref. No.	Part No.	Description
3	MB-414326J	KEY RUBBER
6	EZ-417484J	IND NAME PLATE (11)-E
7	EM-408437J	IND LCD LD-B5444A ENGLISH
8	EJ-412291J	TERMINAL LCD (6) B1043
12	ZS-414462J	PT BID20X05STL BNI
13	ZG-414335J	TERMINAL BATTERY (B3)
15	SK-414322J	SLIDE KNOB
17	SC-414324J	COVER BATTERY
18	ZS-415396J	PT CTS20X08STL CMT

32. REMOCON P.C BOARD RC-W212

Ref. No.	Part No.	Description
D1	ED-416503J	D LED SID1010CXM LF51 INFRARED
IC1	EI-416842J	IC M50934-069FP QXUKGW1
IC2	EI-400672J	IC S-8052ALB-LE
SW1	ES-414811J	SW SLIDE CHIP SSSS21 01-02N
SW2	ES-394558J	SW TACT SKHRAA
TR1	ET-413009J	TR CHIP 2SC2884-Y TE12R T12E
X1	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
X2	EI-403451J	OSC CE CSB1200J 1.200MHZ
1	ZG-415292J	TERMINAL BATTERY (B1)
2	ZG-415294J	TERMINAL BATTERY (B2)

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Part No.	Ref. No.
AVB1038A010A	24-2-A
AVB1050A010A	24-2-C
AVB1050A010D	24-2-B
AVB1051A010B	24-2-D
AVB1065A010A	24-2-E
BAV1130A510A	5-4-B
BAV1130A610A	5-2-C
BAV1130A610B	5-2-B
BAV1130A610C	5-2-A
BAV1161A500B	5-4-F
BAV1164A500C	5-4-A
BAV1164A600A	5-1-A
BAV1164A600C	5-1-B
BAV1164A600F	5-1-C
BAV1164A630A	5-3-A
BAV1164A630C	5-3-B
BAV1164A630F	5-3-C
BAV1164A630G	5-3-D
BAV1164Q500B	5-4-G
BAV1164Q600B	5-1-G
BAV1164Q600D	5-1-D
BAV1164Q600E	5-1-E
BAV1164Q600G	5-1-F
BAV1164Q600H	5-1-H
BAV1164Q630B	5-3-H
BAV1164Q630D	5-3-E
BAV1164Q630E	5-3-F
BAV1164Q630H	5-3-G
BAV1164Q630J	5-3-J
BAV1166A500A	5-4-D
BAV1166A500C	5-4-C
BAV1166Q500B	5-4-E
BBV1130A020L	3-64
BLV1102A050A	3-23
BLV1102A140A	3-43
BL387458J2	4-37
BM387503J	4-31
BM400682J3	4-9
BM401296J1	2-8
BT403872J	23-11-E
BT403873J	23-11-C
BT410488J	23-11-B
BT410491J	23-11-A
BT410606J	23-11-D
BVV1102A070A	3-35
BVV1102A080A	3-36
BVV1102A150A	3-48
BVV1123A410A	2-1
BVV1123A420A	2-2
BV387611J1	6-MD1-B
BV403238J1	6-1-F
BV403239J1	6-1-B
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ABBREVIATIONS (VIDEO)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A	Audio or Analogue	MOD	MODulator
AC	Alternating Current	MRS	Motor ReverSe
ACC	Automatic Color Control	NG	Noise Gate
A/C	Audio and Control	NICAM	Near Instantaneous Compand Audio Multiplex
ADJ	ADJust (ment)		
AFC	Automatic Frequency Control	NON-LIN	NON-LINear
AFT	Automatic Fine Tuning	N.T.S.C.	National Television System Committee
AGC	Automatic Gain Control	OSC	OSCillator
AH	Audio Head	PAL	Phase Alternation by Line
AL	ALways (voltage)	PB	Play Back
ALC	Automatic Level Control	PCB (P.C.B)	Printed Circuit Board
A-SW.P	Audio SWitching Pulse	P-COM	Phase-COMparator
A-MUTE	Audio MUTE	P DOWN	Power DOWN
ANT	ANTenna	PG	Pulse Generator
APC	Automatic Phase Control	P.I.P	Picture In Picture
ASSY	ASSemblY	PL, PLG	PLunger (PLunGer)
BAL	BALance	PRG (PGM)	PRoGram (ProGraM)
B DOWN	Break DOWN	PU	Pick UP (head, pulse)
BGP	Burst Gate Pulse	PWR	PoWeR
BLK	BLocK or BLacK	Q	Quality factor
BPF	Band Pass Filter	R	Right
BU	Back Up (voltage)	RAM	Random Access Memory
B/W	Black and White	REC	RECord
C	Chroma or Color	REF	REFerence
CCD	Charge Coupled Device	REF-V	REFerence Vertical signal
CCIR	Comité Consultatif International des Radio communications	REG	REGulator
		REV (REVW)	REView (REVieW)
CH (ch)	CHannel (channel)	REW	REWind
CLK	CLocK	RF	Radio Frequency
CM	Capstan Motor	ROM	Read Only Memory
CN	CoNnector	R.S SW	Record-Safety SWitch
COMP	COMParator	RST (RES)	ReSet (RESet)
CSW	Cassette SWitch	RVS	ReVerSe
CSYNC	Composite SYNC	S	Sensor, Shield
CTL	ConTrol	SAW	Surface Acoustic Wave
CUE	CUE	SC	SimulCast
DAC	Digital to Analog Converter	S CLK	Serial CLocK
DC	Direct Current	SECAM	SÉquentiel Couleur À Mémoire
DEMOD	DEMODulator	S & H	Sample and Hold
DET	DETetct (DETector)	SLP	Super Long Play
DL	Delay Line	SP	Standard Play
DM	Drum Motor	SPD	SPeeD
DOC	Drop Out Compensator	SRP	Supply Reel Pulse
D.P.E	Drum Phase Error	SRV	SeRVo
D.PG	Drum Pulse Generator	SOW	Sync On Word
EE	Electronic to Electronic	STBY	STandBY
EF	Emitter Follower	S.VHS	Super VHS
EMPHA	EMPHAsis	SW	SWitch
ENV	ENVelope	SW'NG	SWitchiNG
EP	Extended Play	SWP	SWitching Pulse
EP ROM	Erasable Programmable ROM	SYNC	SYNChronize
EQ	EQualizer	T-AUDIO	Tuner AUDIO
FE	Full track Erase	TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
FF	Flip-Flop or Fast Foward	TRK	TRacKing
FG	Frequency Generator	TRP	Take up Reel Pulse
Fig	Figure	T/U	Take Up
FLD	FLuorescent Display	TV	TeleVision
FM	Frequency Modulation	UHF	Ultra High Frequency
Fo	resonance Frequency	UNR	UNRegulated (voltage)
FREQ	FREQuency	V	Vertical or Video
GND	GrouND	VASS	Video Address Search System
H	Horizontal	VCO	Voltage Controlled Oscillator
HP	Horizontal (sync) pulse	VH	Video Head
HPF	High Pass Filter	VHF	Very High Frequency
HQ	High Quality System	VHS	Video Home System
IC	Integrated Circuit	VIF	Video Intermediate Frequency
ID	IDentification	VISS	Video Index Search System
IDL	IDLe (Voltage)	VJ	Video Judge
IMS	Interactive Monitor System	VM	Voltage for Memory
INS	INSert	VOB	Video On Blank
INV	INVerter	VOW	Video On Word
L	Left	VP	Vertical (sync) Pulse
LED	Light Emitting Diode	VPS	Video Program System
LIM	LIMitter	VPT	Video Programming by video Text
LM	Loading Motor	VT	Voltage for Tuning
LM STP	Loading Motor STop	WHT	WHiTe
LP	Long Play	Y	Luminance
LPF	Low Pass Filter	2H	2 Hour (SP)
ME-SECAM	Middle East SECAM	4H	4 Hour (LP)
MI-COM	MIcro COMputer	6H	6 Hour (SLP/EP)
MM	Mono-stayble Multi		

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MODEL VS-G20EDG/EK/EM/EO/EOH
MODEL VS-G21EOH, G23EOH
MODEL VS-G24EK/EOG, G25EOG-V

SCHEMATIC DIAGRAMS AND PC BOARDS

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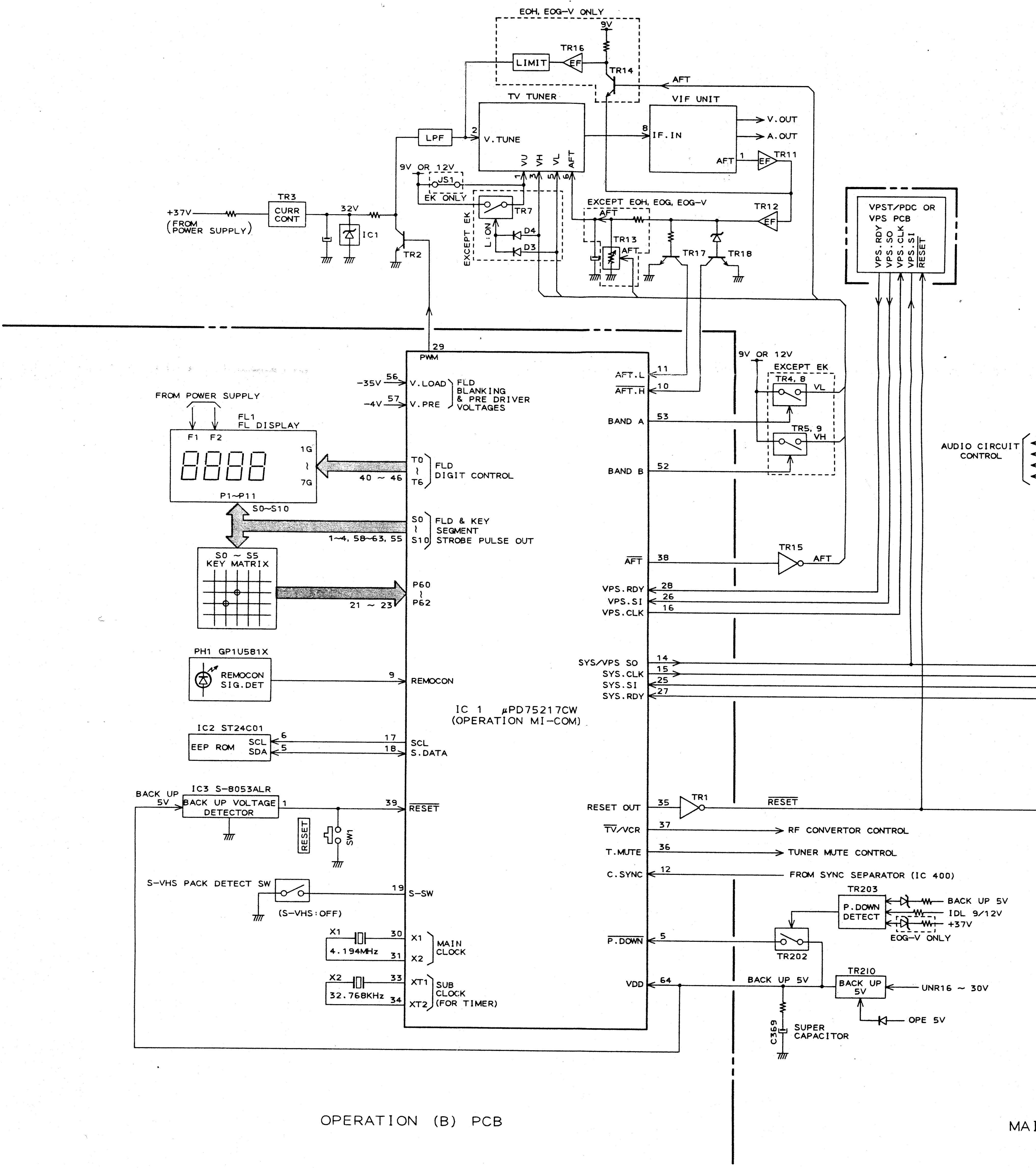
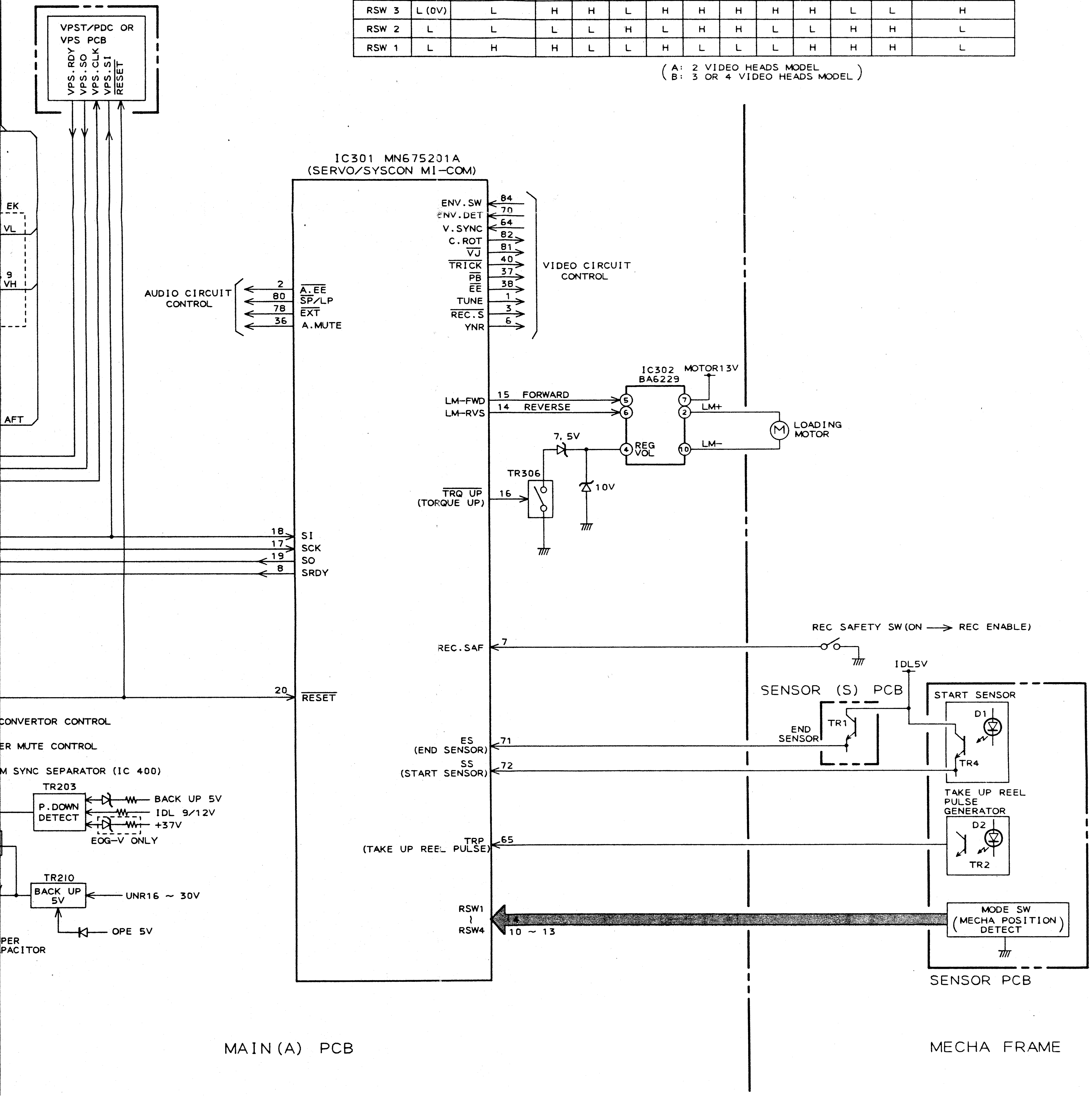
III. INFORMATION OF ICs 42

Use these schematic diagrams and PC boards together with the provided service manual.


EOH, EOG-V ONLY
9V
TR16
LIMIT
EF
TR14
AFT
TV TUNER
VIF UNIT
LPF
V.TUNE
IF.IN
V.OUT
A.OUT
AFT
TR11
VU VH VL AFT
9V OR 12V
JS1
EK ONLY
EXCEPT EK
L:ON
TR7
D4
D3
EXCEPT EOH, EOG, EOG-V
TR12
TR13
TR17
TR18
TR3
CURR CONT
+37V
(FROM POWER SUPPLY)
32V
IC1
TR2
VPST/PDC OR VPS PCB
VPS.RDY
VPS.SO
VPS.CLK
VPS.SI
RESET
29 PWM
-35V 56 V.LOAD
-4V 57 V.PRE
FLD BLANKING & PRE DRIVER VOLTAGES
FROM POWER SUPPLY
FL1 FL DISPLAY
F1 F2
1G ~ 7G
P1~P11
40 ~ 46
T0 ~ T6 FLD DIGIT CONTROL
S0~S10
1~4, 58~63, 55
S0 ~ S10 FLD & KEY SEGMENT STROBE PULSE OUT
S0 ~ S5 KEY MATRIX
21 ~ 23
P60 ~ P62
PH1 GP1U581X
REMOCON SIG.DET
9 REMOCON
IC 1 μPD75217CW (OPERATION MI-COM)
IC2 ST24C01
EEP ROM
SCL SDA
6 5
17 SCL
18 S.DATA
IC3 S-8053ALR
BACK UP 5V
BACK UP VOLTAGE DETECTOR
1
39 RESET
RESET
SW1
S-VHS PACK DETECT SW
(S-VHS:OFF)
19 S-SW
X1 4.194MHz
30 X1
31 X2
MAIN CLOCK
X2 32.768KHz
33 XT1
34 XT2
SUB CLOCK (FOR TIMER)
AFT.L 11
AFT.H 10
BAND A 53
BAND B 52
9V OR 12V
EXCEPT EK
TR4, 8
VL
TR5, 9
VH
AFT 38
TR15
AFT
VPS.RDY 28
VPS.SI 26
VPS.CLK 16
SYS/VPS SO 14
SYS.CLK 15
SYS.SI 25
SYS.RDY 27
RESET OUT 35
TR1
RESET
TV/VCR 37
RF CONVERTOR CONTROL
T.MUTE 36
TUNER MUTE CONTROL
C.SYNC 12
FROM SYNC SEPARATOR (IC 400)
TR203
P.DOWN DETECT
BACK UP 5V
IDL 9/12V
+37V
EOG-V ONLY
P.DOWN 5
TR202
VDD 64
BACK UP 5V
TR210
BACK UP 5V
UNR16 ~ 30V
OPE 5V
C369
SUPER CAPACITOR
AUDIO CIRCUIT CONTROL
OPERATION (B) PCB
MAI

MODE / OUTPUT	EJECT	STOP (TAPE LOADED)	PAUSE/PLAY		PLAY		REVIEW		CUE		FF	REW	POWER OFF (WITH CASSETTE)
			A	B	A	B	A	B	A	B			
RSW 4	H (5V)	L	L	L	L	L	L	H	L	L	L	L	H
RSW 3	L (0V)	L	H	H	L	H	H	H	H	H	L	L	H
RSW 2	L	L	L	L	H	L	H	H	L	L	H	H	L
RSW 1	L	H	H	L	L	H	L	L	L	H	H	H	L

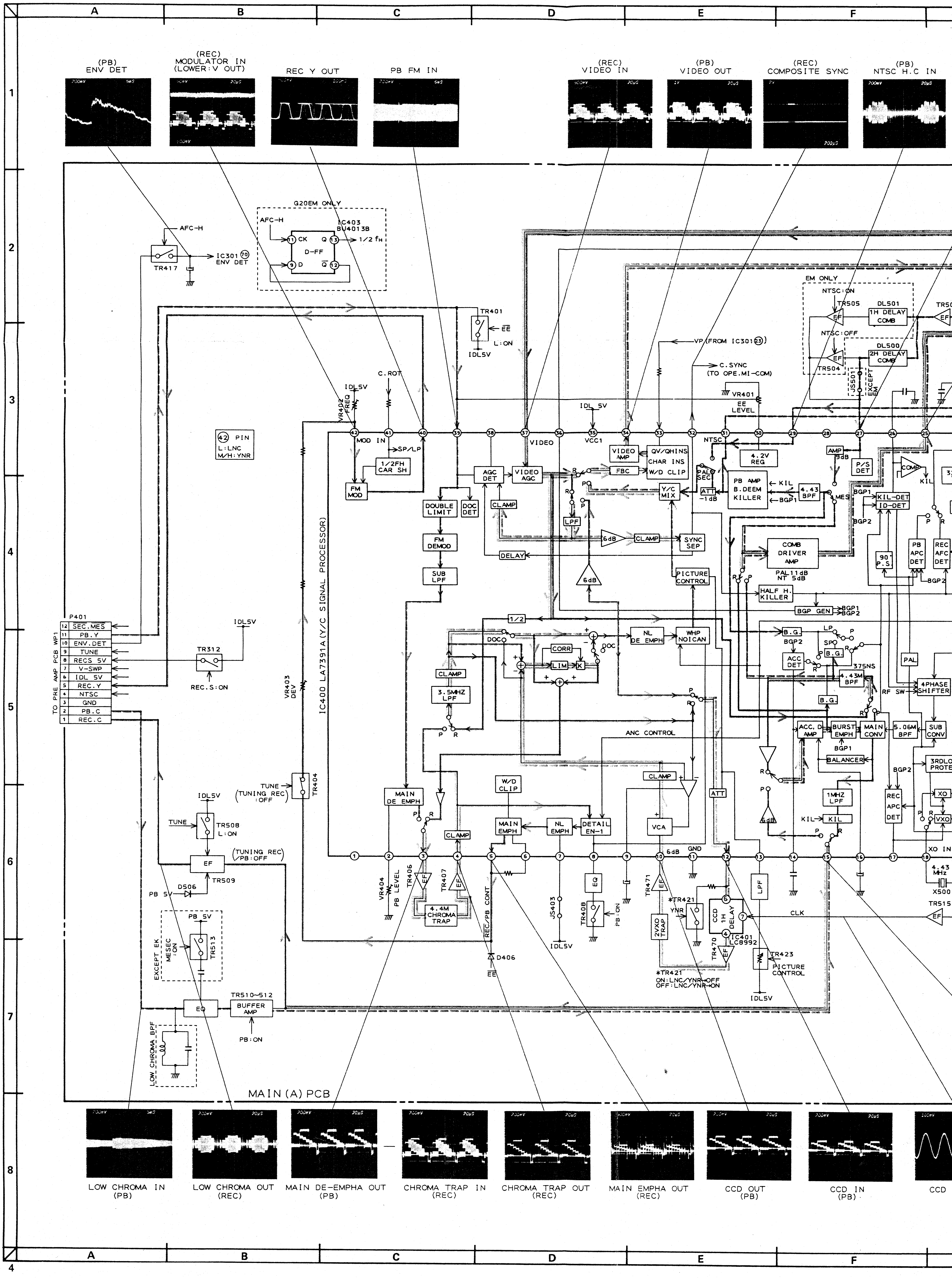
(A: 2 VIDEO HEADS MODEL
B: 3 OR 4 VIDEO HEADS MODEL)

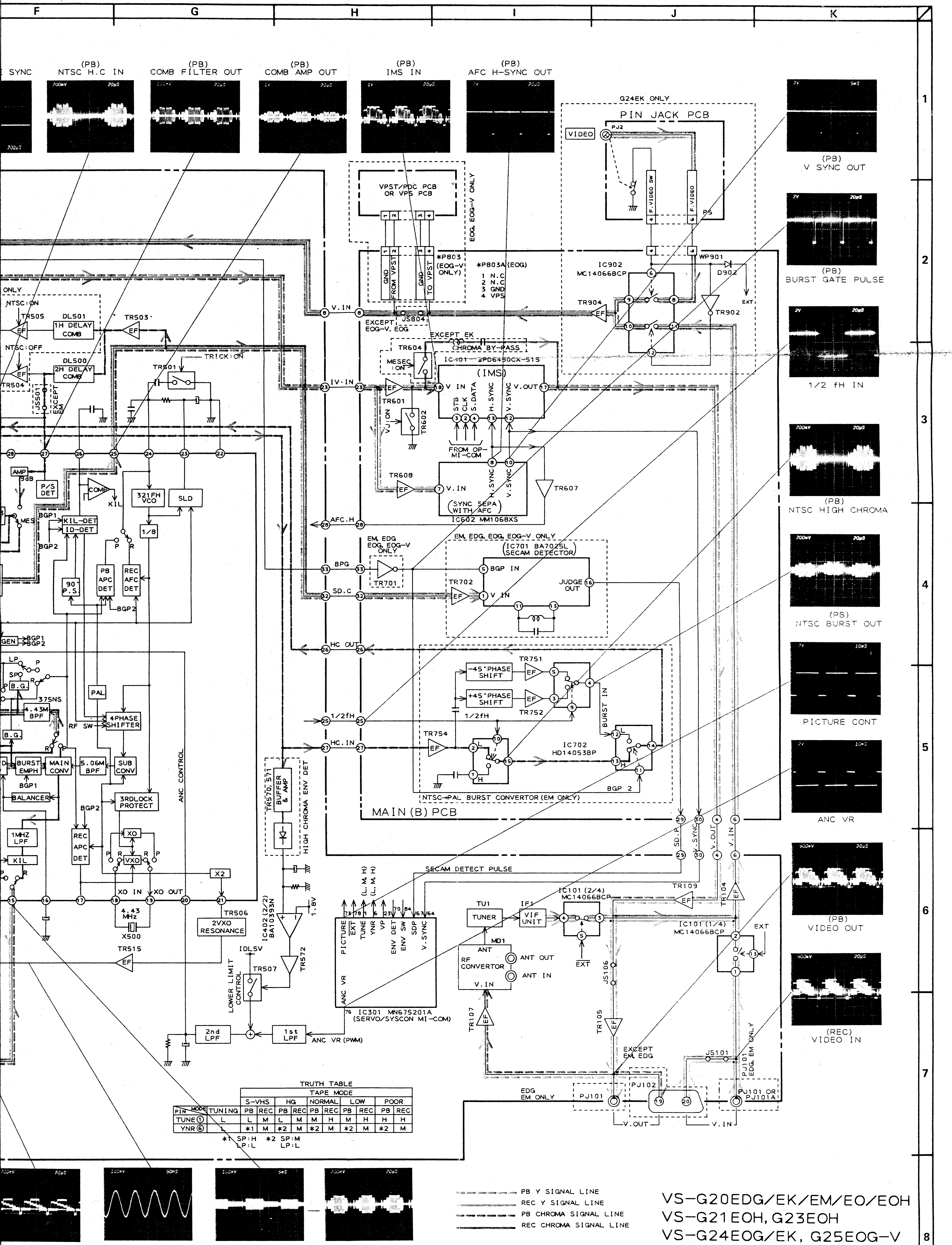

VPST/PDC OR VPS PCB
VPS.RDY
VPS.SO
VPS.CLK
VPS.SI
RESET
EK
VL
9
VH
AFT
IC301 MN675201A
(SERVO/SYSCON MI-COM)
AUDIO CIRCUIT CONTROL
2 A.EE
80 SP/LP
78 EXT
36 A.MUTE
ENV.SW 84
ENV.DET 70
V.SYNC 64
C.ROT 82
VJ 81
TRICK 40
PB 37
EE 38
TUNE 1
REC.S 3
YNR 6
VIDEO CIRCUIT CONTROL
IC302 BA6229
MOTOR13V
LM-FWD 15 FORWARD
LM-RVS 14 REVERSE
LM+
LM-
REG VOL
LOADING MOTOR
7.5V
10V
TR306
TRQ UP (TORQUE UP) 16
18 SI
17 SCK
19 SO
8 SRDY
20 RESET
REC.SAF 7
REC SAFETY SW (ON → REC ENABLE)
IDL5V
SENSOR (S) PCB
TR1
END SENSOR
ES (END SENSOR) 71
SS (START SENSOR) 72
START SENSOR
D1
TR4
TAKE UP REEL PULSE GENERATOR
D2
TR2
TRP (TAKE UP REEL PULSE) 65
RSW1 ~ RSW4
10 ~ 13
MODE SW (MECHA POSITION DETECT)
SENSOR PCB
CONVERTOR CONTROL
ER MUTE CONTROL
M SYNC SEPARATOR (IC 400)
TR203
P.DOWN DETECT
BACK UP 5V
IDL 9/12V
+37V
EOG-V ONLY
TR210
BACK UP 5V
UNR16 ~ 30V
OPE 5V
PER
PACITOR
MAIN(A) PCB
MECHA FRAME

VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V

OPERATION & SYSCON
BLOCK DIAGRAM

No.6-1 V116451M
A2


A
B
C
D
E
F
1
2
3
4
5
6
7
8
(PB) ENV DET
(REC) MODULATOR IN (LOWER:V OUT)
REC Y OUT
PB FM IN
(REC) VIDEO IN
(PB) VIDEO OUT
(REC) COMPOSITE SYNC
(PB) NTSC H.C IN
AFC-H
TR417
IC301 (70) ENV DET
G20EM ONLY
IC403 BU4013B
D-FF
CK
D
1/2 fH
TR401
EE
L:ON
IDL5V
C.ROT
VR402 FREQ
MOD IN
SP/LP
1/2FH CAR SH
FM MOD
(42) PIN
L:LNC
M/H:YNR
AGC DET
VIDEO AGC
VIDEO
DOUBLE LIMIT
DOC DET
FM DEMOD
SUB LPF
CLAMP
DELAY
IDL 5V
VCC1
VIDEO AMP
FBC
QV/QHINS
CHAR INS
W/D CLIP
Y/C MIX
LPF
6dB
SYNC SEP
PICTURE CONTROL
VP (FROM IC301 (23))
C.SYNC (TO OPE.MI-COM)
VR401 EE LEVEL
NTSC
PAL SEC
ATT -1dB
4.2V REG
PB AMP B.DEEM KILLER
KIL
BGP1
4.43 BPF
MES
AMP 9dB
P/S DET
COMP
KIL-DET
ID-DET
BGP2
COMB DRIVER AMP
PAL 11dB NT 5dB
HALF H. KILLER
BGP GEN
90° P.S
PB APC DET
REC AFC DET
EM ONLY
NTSC:ON
TR505
DL501 1H DELAY COMB
NTSC:OFF
TR504
DL500 2H DELAY COMB
JS501 EXCEPT EM
P401
12 SEC.MES
11 PB.Y
10 ENV.DET
9 TUNE
8 RECS 5V
7 V-SWP
6 IDL 5V
5 REC.Y
4 NTSC
3 GND
2 PB.C
1 REC.C
TO PRE AMP PCB WP1
TR312
REC.S:ON
IC400 LA7391A (Y/C SIGNAL PROCESSOR)
VR403 DEV
1/2
DOC
CORR
LIM
K
NL DE EMPH
WHP NOICAN
3.5MHZ LPF
ANC CONTROL
B.G.
LP
SP
ACC DET
4.43M BPF
375NS
PAL
4PHASE SHIFTER
RF SW
ACC, D AMP
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BALANCER
3RDLO PROTE
CLAMP
ATT
1MHZ LPF
KIL
REC APC DET
XO
VXO
TUNE
TR404
TUNE (TUNING REC :OFF)
IDL5V
TR508 L:ON
EF
(TUNING REC /PB:OFF)
TR509
D506
PB 5V
EXCEPT EK MESEC :ON
TR513
MAIN DE EMPH
W/D CLIP
MAIN EMPH
NL EMPH
DETAIL EN-1
VCA
VR404 PB LEVEL
TR406
TR407
4.4M CHROMA TRAP
REC/PB CONT
D406
EE
JS403
IDL5V
EQ
TR408
PB:ON
TR471
2VXO TRAP
*TR421
YNR
CCD 1H DELAY
IC401 LC8992
TR470
TR423
PICTURE CONTROL
*TR421
ON:LNC/YNR→OFF
OFF:LNC/YNR→ON
IDL5V
GND
CLK
XO IN
4.43 MHz
X500
TR515
EQ
TR510~512 BUFFER AMP
PB:ON
LOW CHROMA BPF
MAIN (A) PCB
LOW CHROMA IN (PB)
LOW CHROMA OUT (REC)
MAIN DE-EMPHA OUT (PB)
CHROMA TRAP IN (REC)
CHROMA TRAP OUT (REC)
MAIN EMPHA OUT (REC)
CCD OUT (PB)
CCD IN (PB)
CCD


F
G
H
I
J
K
1
2
3
4
5
6
7
8
(PB) NTSC H.C IN
(PB) COMB FILTER OUT
(PB) COMB AMP OUT
(PB) IMS IN
(PB) AFC H-SYNC OUT
(PB) V SYNC OUT
(PB) BURST GATE PULSE
1/2 fH IN
(PB) NTSC HIGH CHROMA
(PB) NTSC BURST OUT
PICTURE CONT
ANC VR
(PB) VIDEO OUT
(REC) VIDEO IN
CCD IN (PB)
CCD CLK IN
LOW CHROMA IN (PB)
LOW CHROMA OUT (REC)
G24EK ONLY
PIN JACK PCB
VIDEO
PJ2
F.VIDEO SW
F.VIDEO
P5
VPST/PDC PCB OR VPS PCB
EOG, EOG-V ONLY
*P803 (EOG-V ONLY)
*P803A (EOG)
1 N.C
2 N.C
3 GND
4 VPS
GND
FROM VPST
TO VPST
JS804
EXCEPT EOG-V, EOG
EXCEPT EK
CHROMA BY-PASS
TR604
MESEC :ON
IC401 μPD6450CX-515 (IMS)
TR601
TR602
V.J ON
STB
CLK
S.DATA
H.SYNC
V.SYNC
V.OUT
FROM OP-MI-COM
TR608
V.IN
IC602 MM1068XS (SYNC SEPA WITH AFC)
TR607
IC902 MC14066BCP
WP901
D902
TR904
TR902
EXT
EM, EDG EOG, EOG-V ONLY
TR701
EM, EDG, EOG, EOG-V ONLY
IC701 BA7025L SECAM DETECTOR
BGP IN
JUDGE OUT
TR702
TR751
TR752
TR754
-45° PHASE SHIFT
+45° PHASE SHIFT
1/2fH
BURST IN
IC702 HD14053BP
BGP 2
NTSC→PAL BURST CONVERTOR (EM ONLY)
MAIN (B) PCB
V.IN
IV.IN
AFC.H
BPG
SD.C
HC OUT
1/2fH
HC.IN
SD.P
V.SYNC
V.OUT
SECAM DETECT PULSE
ONLY
NTSC:ON
TR505
DL501 1H DELAY COMB
TR503
NTSC:OFF
DL500 2H DELAY COMB
TR504
JS501 EXCEPT EM
TR501
TRICK:ON
AMP 9dB
P/S DET
COMP
KIL
321FH VCO
SLD
1/8
MES
BGP1
KIL-DET
ID-DET
BGP2
90° P.S
PB APC DET
REC AFC DET
GEN
LP
SP
B.G
375NS
4.43M BPF
PAL
RF SW
4PHASE SHIFTER
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BALANCER
3RDLOCK PROTECT
ANC CONTROL
1MHZ LPF
KIL
REC APC DET
XO
VXO
X2
XO IN
XO OUT
4.43 MHz
X500
TR506
2VXO RESONANCE
TR515
TR570, 571 BUFFER & AMP
HIGH CHROMA ENV DET
IC402 (2/2) BA10393N
1.8V
TR572
IDL5V
TR507
LOWER LIMIT CONTROL
2nd LPF
1st LPF
ANC VR (PWM)
IC301 MN675201A (SERVO/SYSCON MI-COM)
PICTURE
EXT
TUNE
YNR
VP
ENV DET
ENV SW
SDP
V.SYNC
ANC VR
TU1 TUNER
IF1 VIF UNIT
IC101 (2/4) MC14066BCP
IC101 (1/4) MC14066BCP
MD1 ANT RF CONVERTOR
ANT OUT
ANT IN
TR107
TR105
JS106
TR109
TR104
EXCEPT EM, EDG
JS101
PJ101 EDG, EM ONLY
EDG EM ONLY
PJ101
PJ102
PJ101 OR PJ101A
V.OUT
V.IN

TRUTH TABLE

PIN \ MODE	TUNING	TAPE MODE									
		S-VHS		HG		NORMAL		LOW		POOR	
		PB	REC	PB	REC	PB	REC	PB	REC	PB	REC
TUNE ①	L	L	M	L	M	M	H	M	H	H	H
YNR ⑥	L	*1	M	*2	M	*2	M	*2	M	*2	M

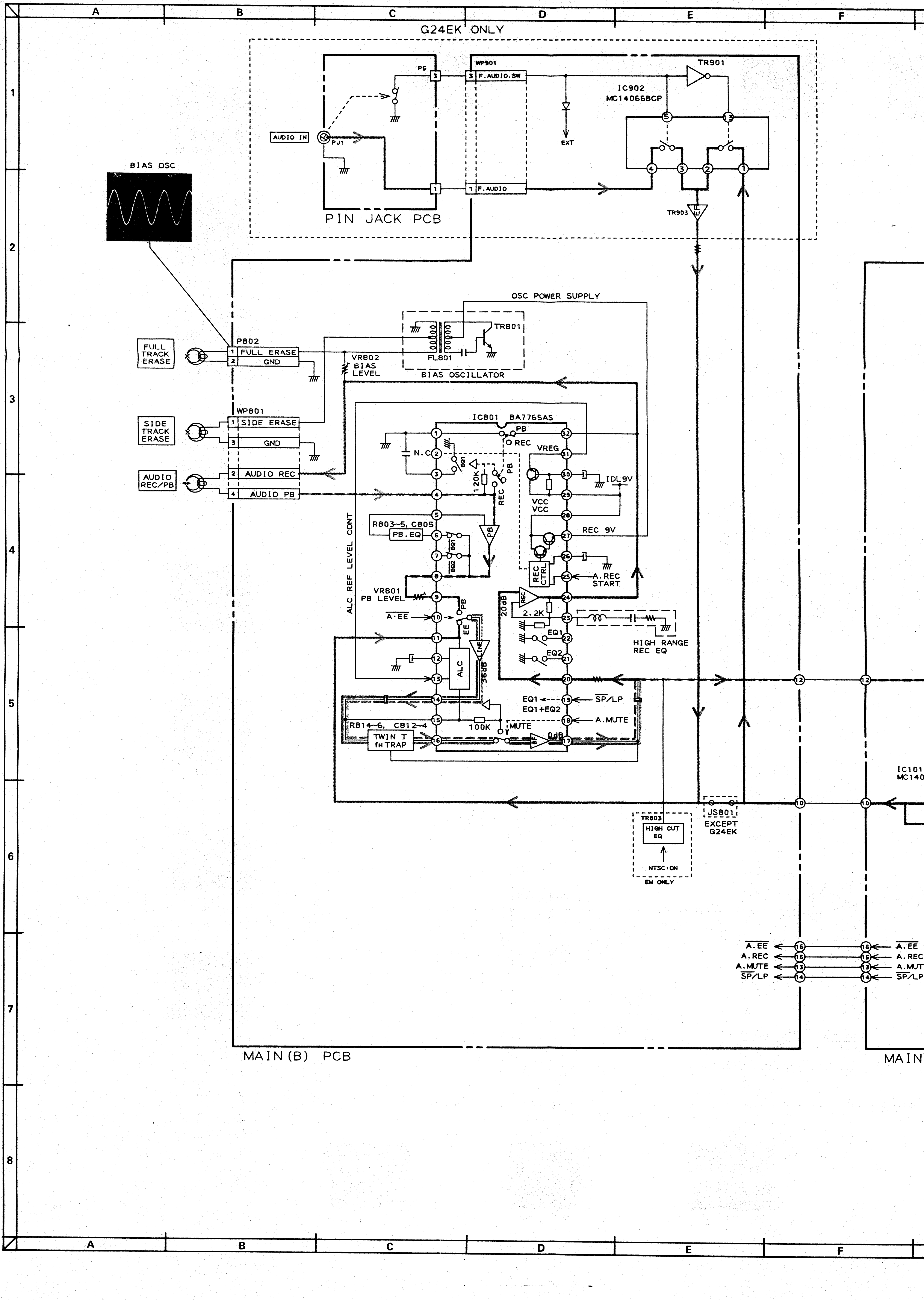
*1 SP:H
LP:L

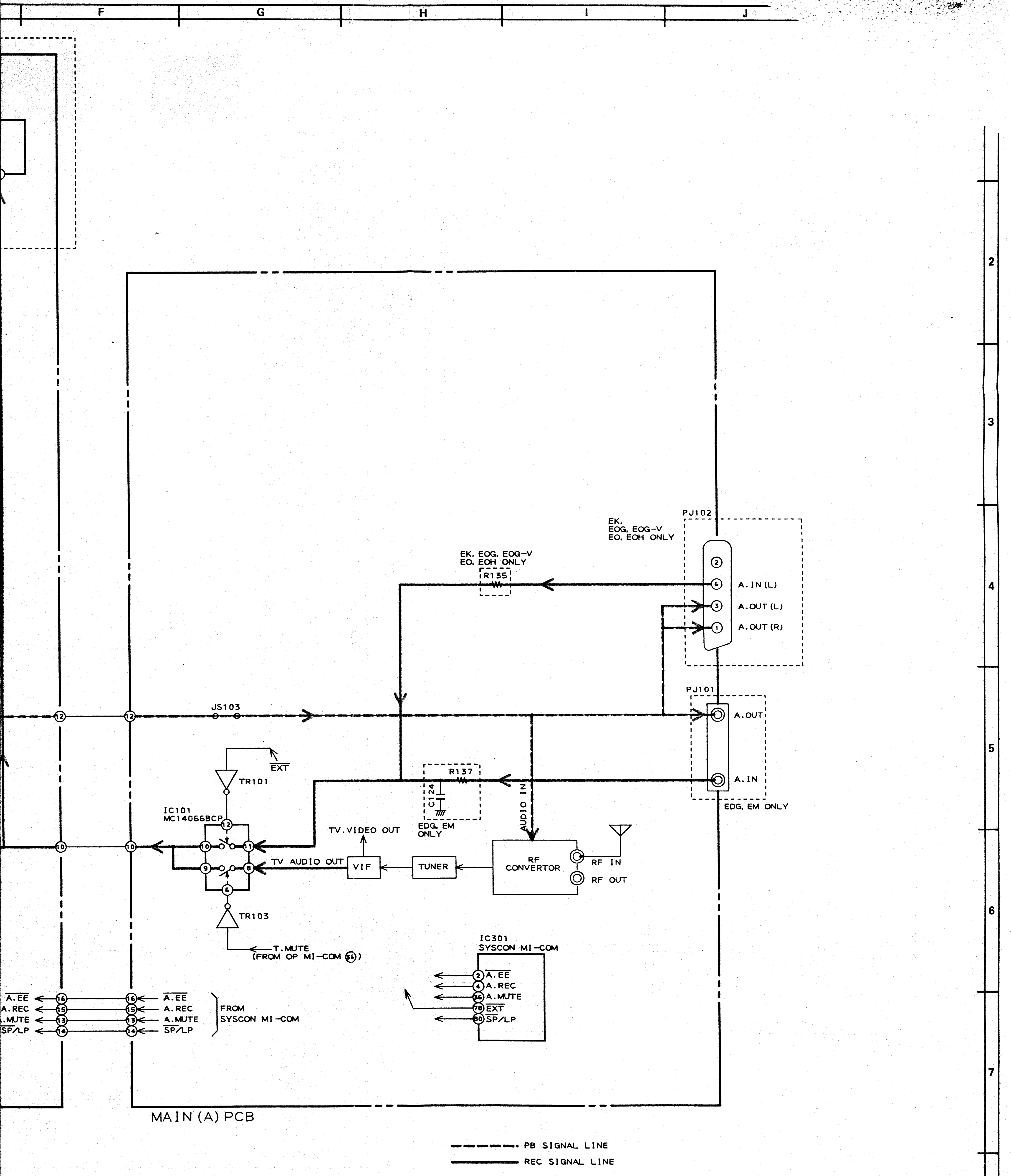
*2 SP:M
LP:L

- PB Y SIGNAL LINE
- REC Y SIGNAL LINE
- PB CHROMA SIGNAL LINE
- REC CHROMA SIGNAL LINE

VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
VIDEO
BLOCK DIAGRAM

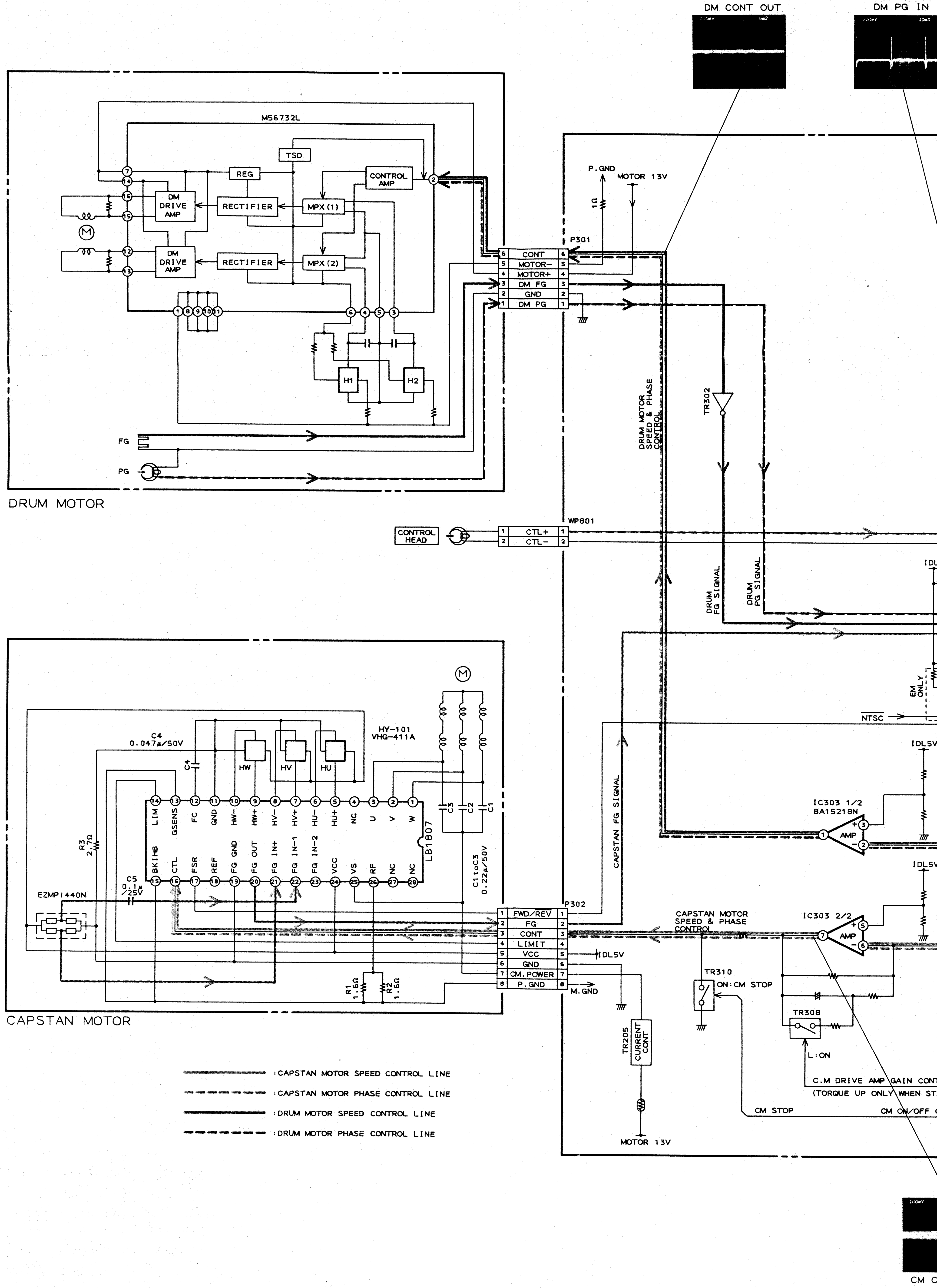
No. 6-2 V116452M
A1

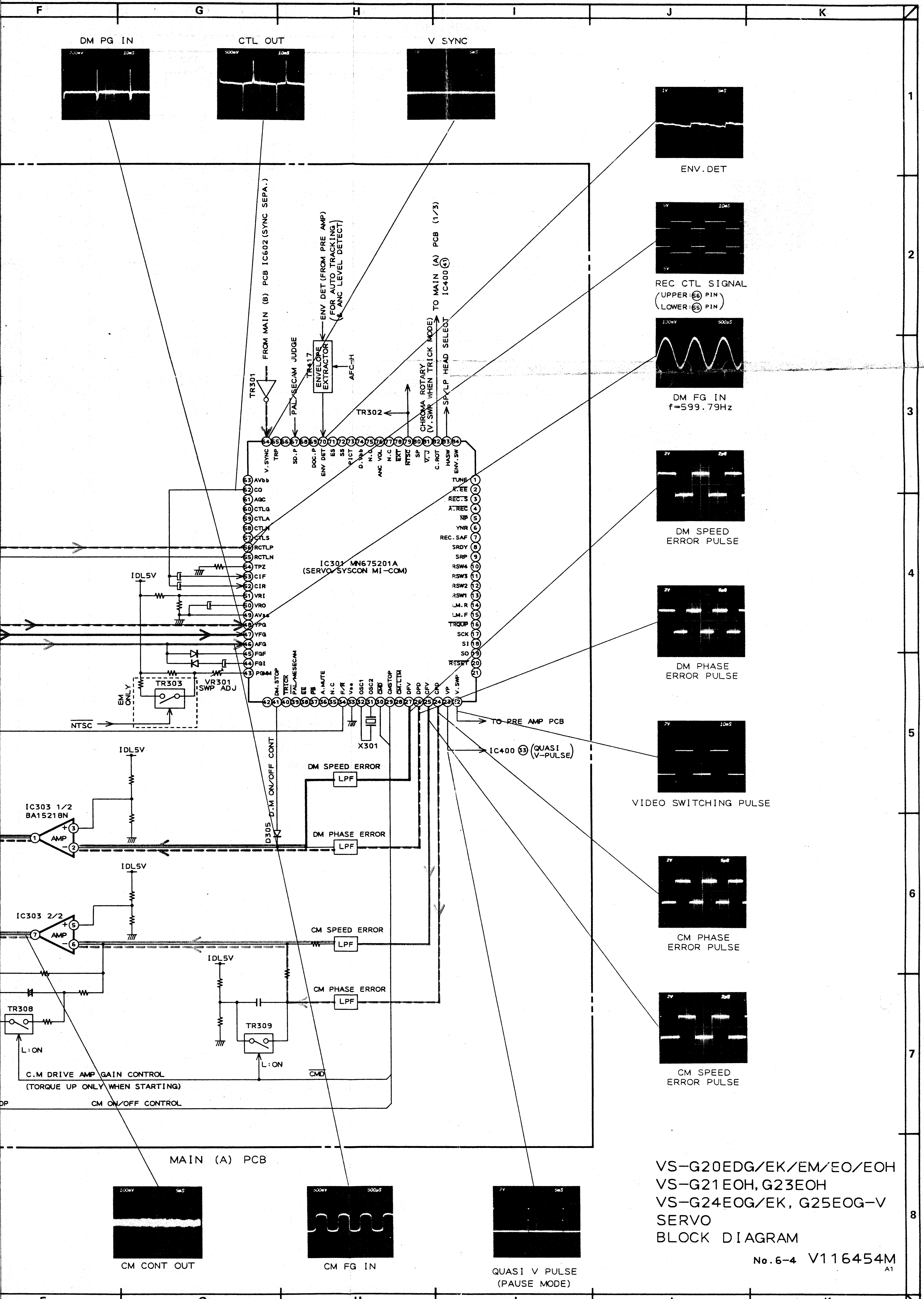

A
B
C
D
E
F
1
2
3
4
5
6
7
8
G24EK ONLY
P5
WP901
3 F.AUDIO.SW
TR901
IC902
MC14066BCP
AUDIO IN
PJ1
EXT
1 F.AUDIO
TR903
PIN JACK PCB
BIAS OSC
OSC POWER SUPPLY
TR801
FL801
BIAS OSCILLATOR
P802
FULL TRACK ERASE
1 FULL ERASE
2 GND
VR802
BIAS
LEVEL
WP801
SIDE TRACK ERASE
1 SIDE ERASE
3 GND
AUDIO REC/PB
2 AUDIO REC
4 AUDIO PB
IC801 BA7765AS
PB
REC
N.C
EQ1
120K
VREG
IDL 9V
VCC
VCC
REC 9V
R803~5, C805
PB.EQ
EQ2
REC CTRL
A.REC
START
ALC REF LEVEL CONT
VR801
PB LEVEL
20dB
2.2K
A·EE
EE
LINE
HIGH RANGE
REC EQ
ALC
36dB
EQ1
EQ2
EQ1 ←
EQ1+EQ2
SP/LP
A.MUTE
R814~6, C812~4
TWIN T
fH TRAP
100K
MUTE
BF
0dB
12
10
TR803
HIGH CUT
EQ
NTSC:ON
EM ONLY
JS801
EXCEPT
G24EK
IC101
MC140
A.EE
A.REC
A.MUTE
SP/LP
16
15
13
14
MAIN(B) PCB
MAIN


F
G
H
I
J
2
3
4
5
6
7
PJ102
EK,
EOG, EOG−V
EO, EOH ONLY
EK, EOG, EOG−V
EO, EOH ONLY
R135
②
⑥ A.IN(L)
③ A.OUT(L)
① A.OUT(R)
PJ101
A.OUT
A.IN
EDG, EM ONLY
JS103
⑫
⑩
EXT
TR101
R137
C124
EDG, EM
ONLY
AUDIO IN
IC101
MC14066BCP
⑫ ⑩ ⑪ ⑨ ⑧ ⑥
TV.VIDEO OUT
TV AUDIO OUT
VIF
TUNER
RF
CONVERTOR
RF IN
RF OUT
TR103
T.MUTE
(FROM OP MI−COM ㊱)
IC301
SYSCON MI−COM
② A.EE
④ A.REC
㊱ A.MUTE
(78) EXT
(80) SP/LP
A.EE ⑯
A.REC ⑮
A.MUTE ⑬
SP/LP ⑭
⑯ A.EE
⑮ A.REC
⑬ A.MUTE
⑭ SP/LP
FROM
SYSCON MI−COM
MAIN (A) PCB
PB SIGNAL LINE
REC SIGNAL LINE

VS−G20EDG/EK/EM/EO/EOH
VS−G21EOH, 23EOH
VS−G24EOG/EK , G25EOG−V
AUDIO
BLOCK DIAGRAM

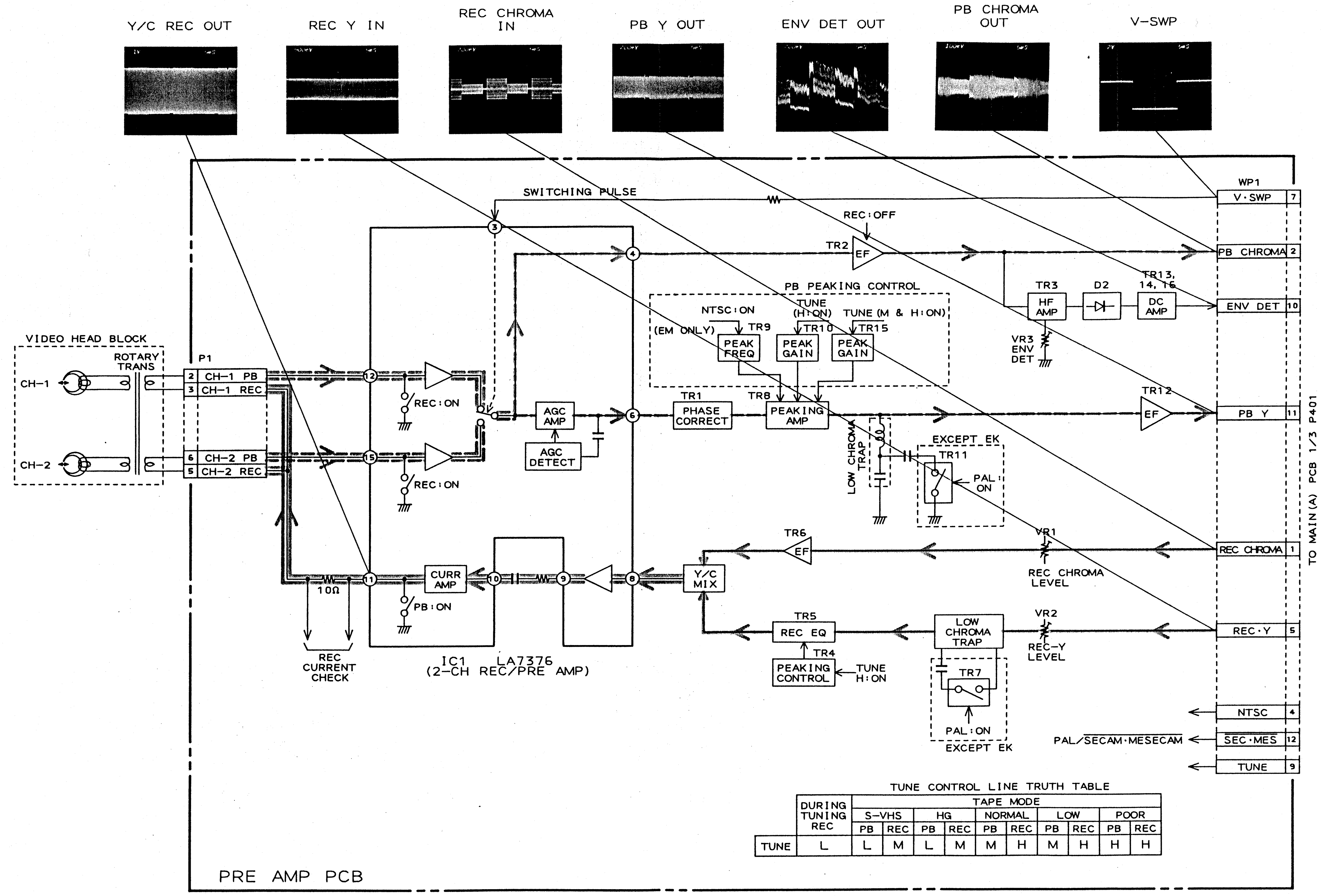
No.6−3 V116453M
A2


DM CONT OUT
DM PG IN
M56732L
TSD
REG
CONTROL AMP
DM DRIVE AMP
RECTIFIER
MPX (1)
MPX (2)
H1
H2
FG
PG
DRUM MOTOR
P.GND
MOTOR 13V
1Ω
P301
CONT
MOTOR−
MOTOR+
DM FG
GND
DM PG
TR302
DRUM MOTOR SPEED & PHASE CONTROL
CONTROL HEAD
WP801
CTL+
CTL−
DRUM FG SIGNAL
DRUM PG SIGNAL
EM ONLY
NTSC
IDL5V
IC303 1/2
BA15218N
AMP
CAPSTAN FG SIGNAL
HY-101
VHG-411A
C4
0.047µ/50V
HW
HV
HU
LIM
GSENS
FC
GND
HW−
HW+
HV−
HV+
HU−
HU+
NC
U
V
W
BKIHB
CTL
FSR
REF
FG GND
FG OUT
FG IN+
FG IN−1
FG IN−2
VCC
VS
RF
LB1807
C1toC3
0.22µ/50V
R3
2.7Ω
C5
0.1µ
/25V
EZMP1440N
P302
FWD/REV
FG
CONT
LIMIT
VCC
GND
CM. POWER
P.GND
IDL5V
M.GND
R1
1.6Ω
R2
1.6Ω
CAPSTAN MOTOR
CAPSTAN MOTOR SPEED & PHASE CONTROL
IC303 2/2
AMP
TR310
ON:CM STOP
TR308
L:ON
C.M DRIVE AMP GAIN CONT
(TORQUE UP ONLY WHEN ST
CM STOP
CM ON/OFF C
TR205
CURRENT CONT
MOTOR 13V
CM C
:CAPSTAN MOTOR SPEED CONTROL LINE
:CAPSTAN MOTOR PHASE CONTROL LINE
:DRUM MOTOR SPEED CONTROL LINE
:DRUM MOTOR PHASE CONTROL LINE


F
G
H
I
J
K
1
2
3
4
5
6
7
8
DM PG IN
CTL OUT
V SYNC
ENV.DET
REC CTL SIGNAL
(UPPER:(56) PIN)
(LOWER:(55) PIN)
DM FG IN
f=599.79Hz
DM SPEED ERROR PULSE
DM PHASE ERROR PULSE
VIDEO SWITCHING PULSE
CM PHASE ERROR PULSE
CM SPEED ERROR PULSE
CM CONT OUT
CM FG IN
QUASI V PULSE (PAUSE MODE)
FROM MAIN (B) PCB IC602 (SYNC SEPA.)
TR301
PAL/SECAM JUDGE
TR417
ENVELOPE EXTRACTOR
AFC-H
ENV DET (FROM PRE AMP)
(FOR AUTO TRACKING & ANC LEVEL DETECT)
TR302
CHROMA ROTARY (V.SWR WHEN TRICK MODE)
TO MAIN (A) PCB (1/3) IC400 (41)
SP/LP HEAD SELECT
IC301 MN675201A
(SERVO/SYSCON MI-COM)
V.SYNC
TRP
SD.P
DOC.P
ENV DET
ES
SS
PICT
D.Vbb
N.C
ANC VOL
N.C
EXT
NTSC
SP
V.J
C.ROT
HASW
ENV.SW
AVbb
CO
AGC
CTLG
CTLA
CTLN
CTLS
RCTLP
RCTLN
TPZ
CIF
CIR
VRI
VRO
AVss
YPG
YFG
AFG
FGF
FGI
PGMM
TUNE
A.EE
REC.5
A.REC
NP
YNR
REC.SAF
SRDY
SRP
RSW4
RSW3
RSW2
RSW1
LM.R
LM.F
TRQUP
SCK
SI
SO
RESET
DM.STOP
TRICK
PAL/MESECAM
EE
PB
A.MUTE
N.C
F/R
Vss
OSC1
OSC2
CMD
CMSTOP
CM.LTM
DFV
DPD
CFV
CPD
VP
V.SWP
TO PRE AMP PCB
IC400 (33) (QUASI V-PULSE)
X301
IDL5V
TR303
EM ONLY
VR301 SWP ADJ
NTSC
D.M ON/OFF CONT
D305
DM SPEED ERROR
DM PHASE ERROR
CM SPEED ERROR
CM PHASE ERROR
LPF
IC303 1/2 BA15218N
IC303 2/2
AMP
TR308
TR309
L:ON
C.M DRIVE AMP GAIN CONTROL
(TORQUE UP ONLY WHEN STARTING)
CMD
CM ON/OFF CONTROL
MAIN (A) PCB

VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
SERVO
BLOCK DIAGRAM

No.6-4 V116454M A1


Y/C REC OUT
REC Y IN
REC CHROMA IN
PB Y OUT
ENV DET OUT
PB CHROMA OUT
V-SWP
VIDEO HEAD BLOCK
ROTARY TRANS
CH-1
CH-2
P1
2 CH-1 PB
3 CH-1 REC
6 CH-2 PB
5 CH-2 REC
SWITCHING PULSE
REC:ON
REC:ON
PB:ON
AGC AMP
AGC DETECT
CURR AMP
10Ω
REC CURRENT CHECK
IC1 LA7376
(2-CH REC/PRE AMP)
REC:OFF
TR2
EF
PB PEAKING CONTROL
NTSC:ON
(EM ONLY)
TR9
PEAK FREQ
TUNE (H:ON)
TR10
PEAK GAIN
TUNE (M & H:ON)
TR15
PEAK GAIN
TR1
PHASE CORRECT
TR8
PEAKING AMP
LOW CHROMA TRAP
EXCEPT EK
TR11
PAL:ON
TR12
EF
TR3
HF AMP
D2
TR13, 14, 16
DC AMP
VR3
ENV DET
TR6
EF
Y/C MIX
VR1
REC CHROMA LEVEL
TR5
REC EQ
TR4
PEAKING CONTROL
TUNE H:ON
LOW CHROMA TRAP
VR2
REC-Y LEVEL
TR7
PAL:ON
EXCEPT EK
WP1
V·SWP 7
PB CHROMA 2
ENV DET 10
PB Y 11
REC CHROMA 1
REC·Y 5
NTSC 4
SEC·MES 12
TUNE 9
PAL/SECAM·MESECAM
TO MAIN (A) PCB 1/3 P401
PRE AMP PCB

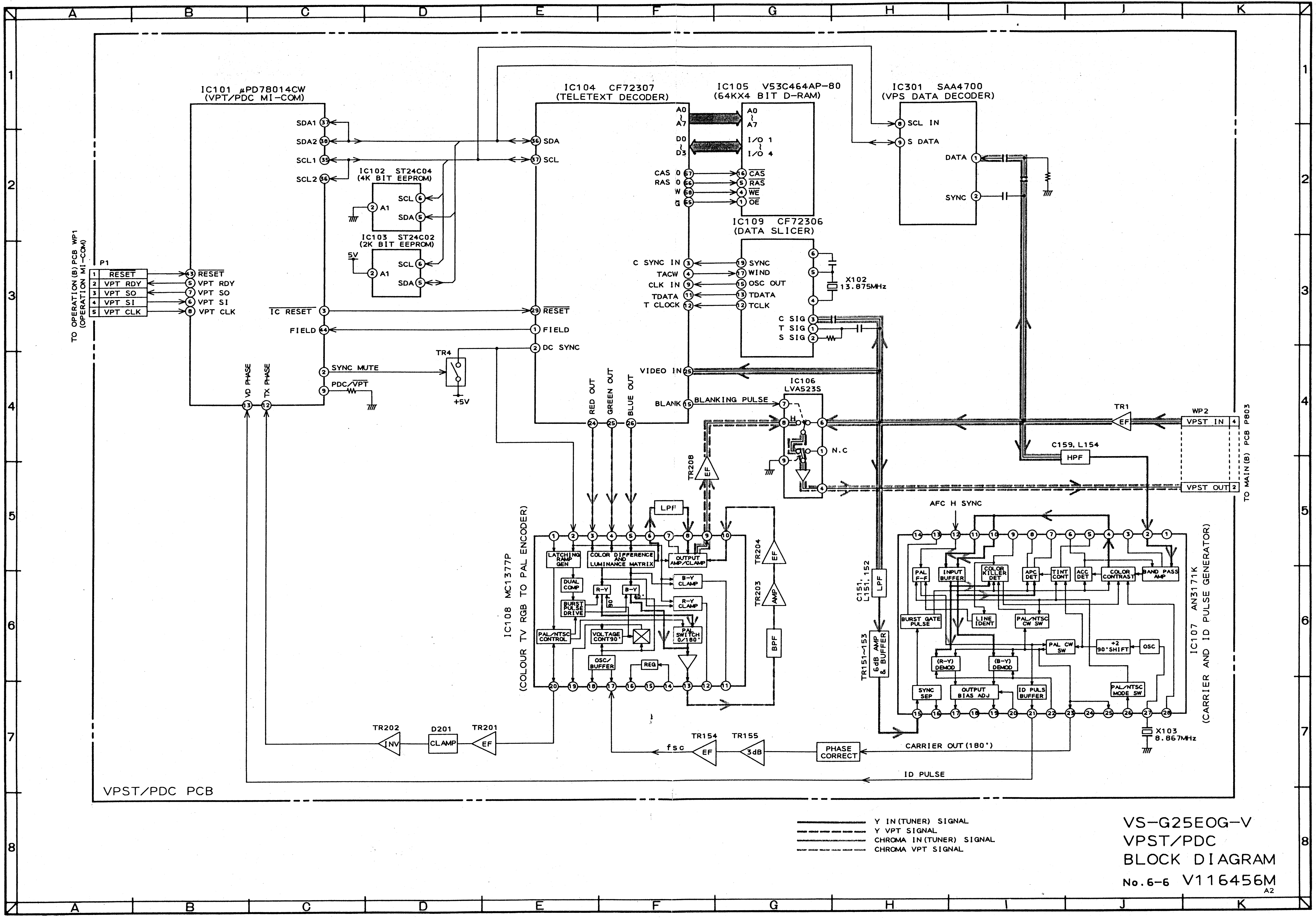
TUNE CONTROL LINE TRUTH TABLE

	DURING TUNING REC	TAPE MODE									
		S-VHS		HG		NORMAL		LOW		POOR	
		PB	REC	PB	REC	PB	REC	PB	REC	PB	REC
TUNE	L	L	M	L	M	M	H	M	H	H	H

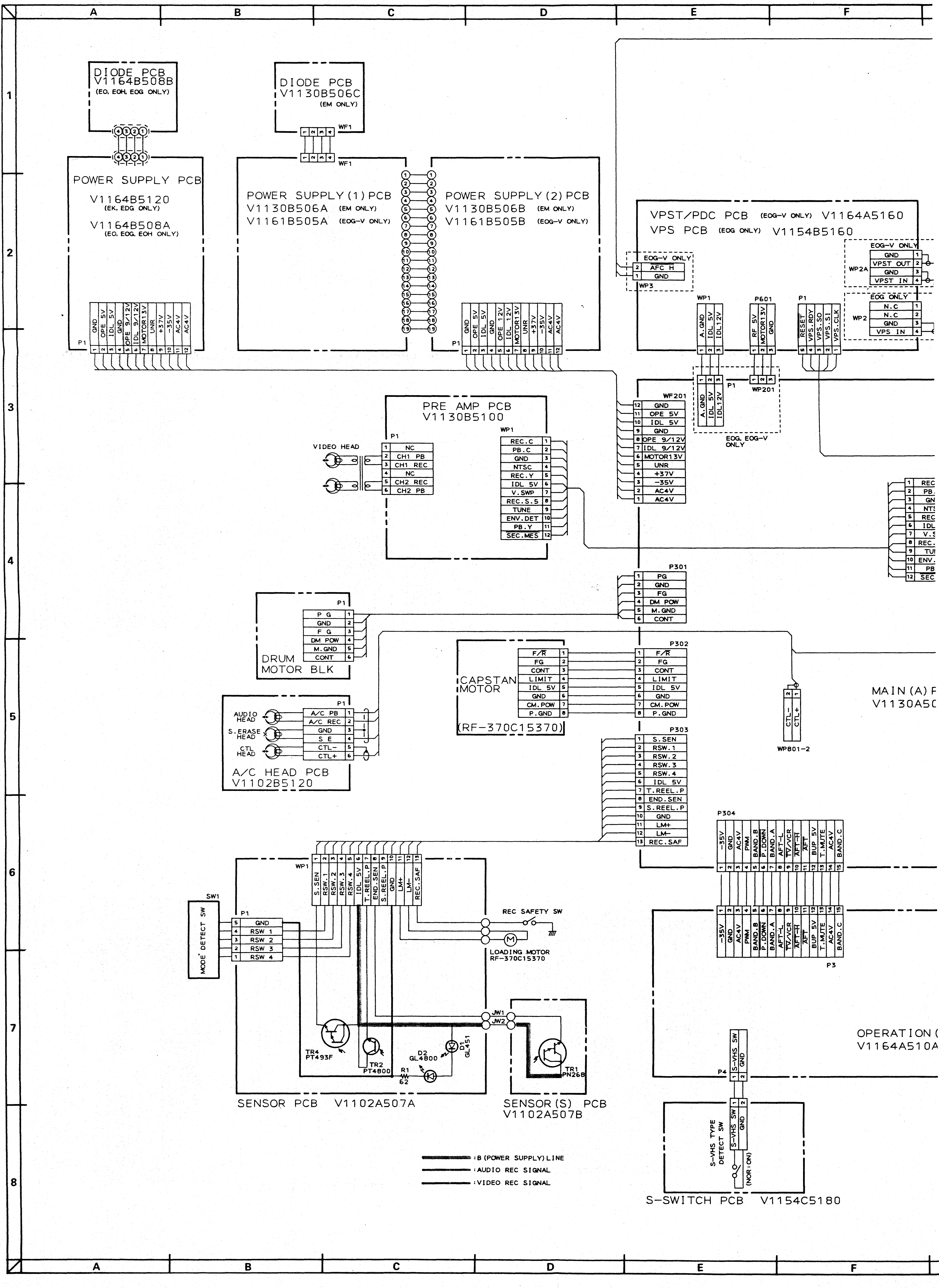
- - - - - PB Y SIGNAL LINE
━━━━━ REC Y SIGNAL LINE
- - - - - PB CHROMA SIGNAL LINE
━━━━━ REC CHROMA SIGNAL LINE

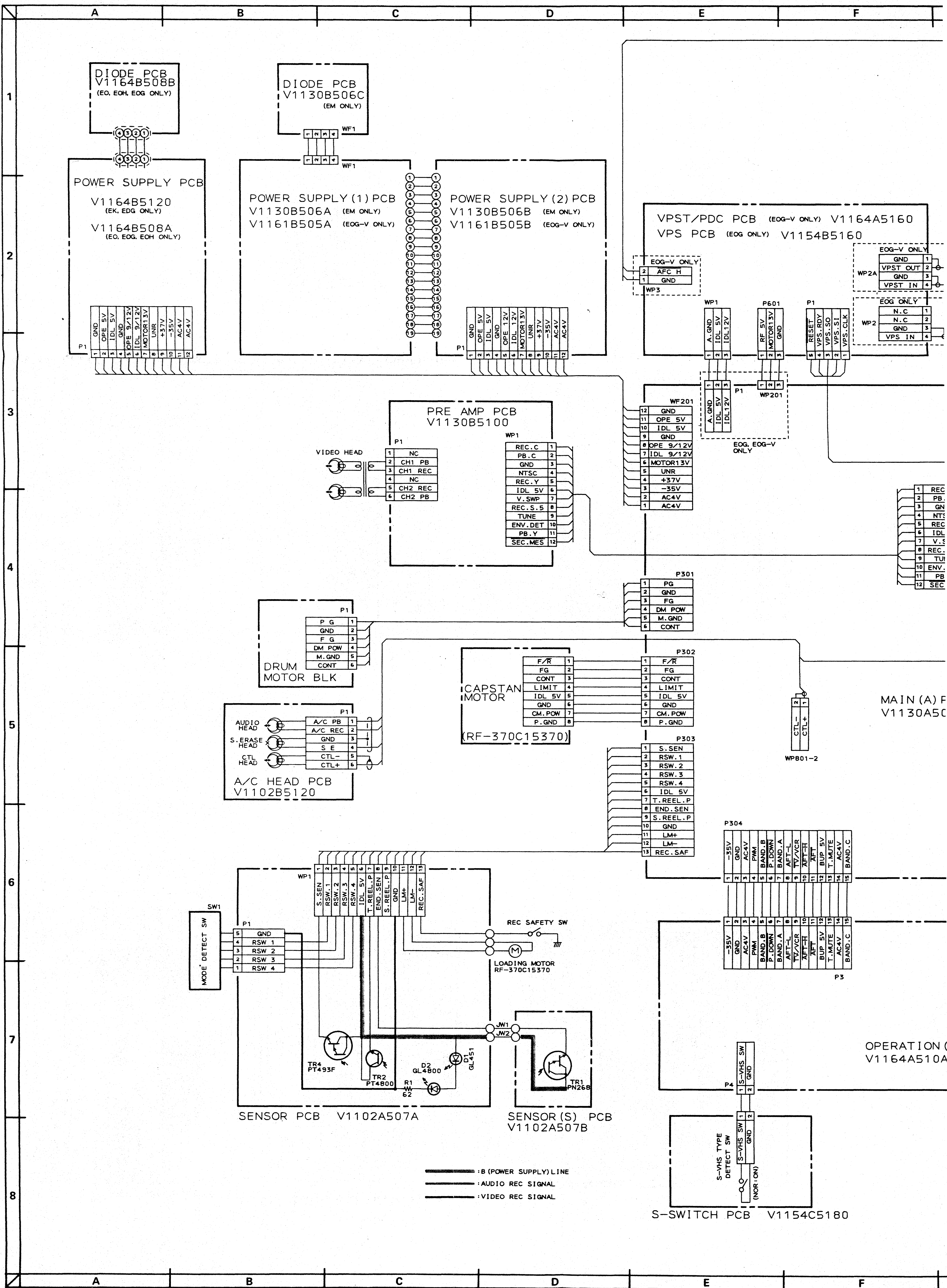
VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
PRE AMP
BLOCK DIAGRAM

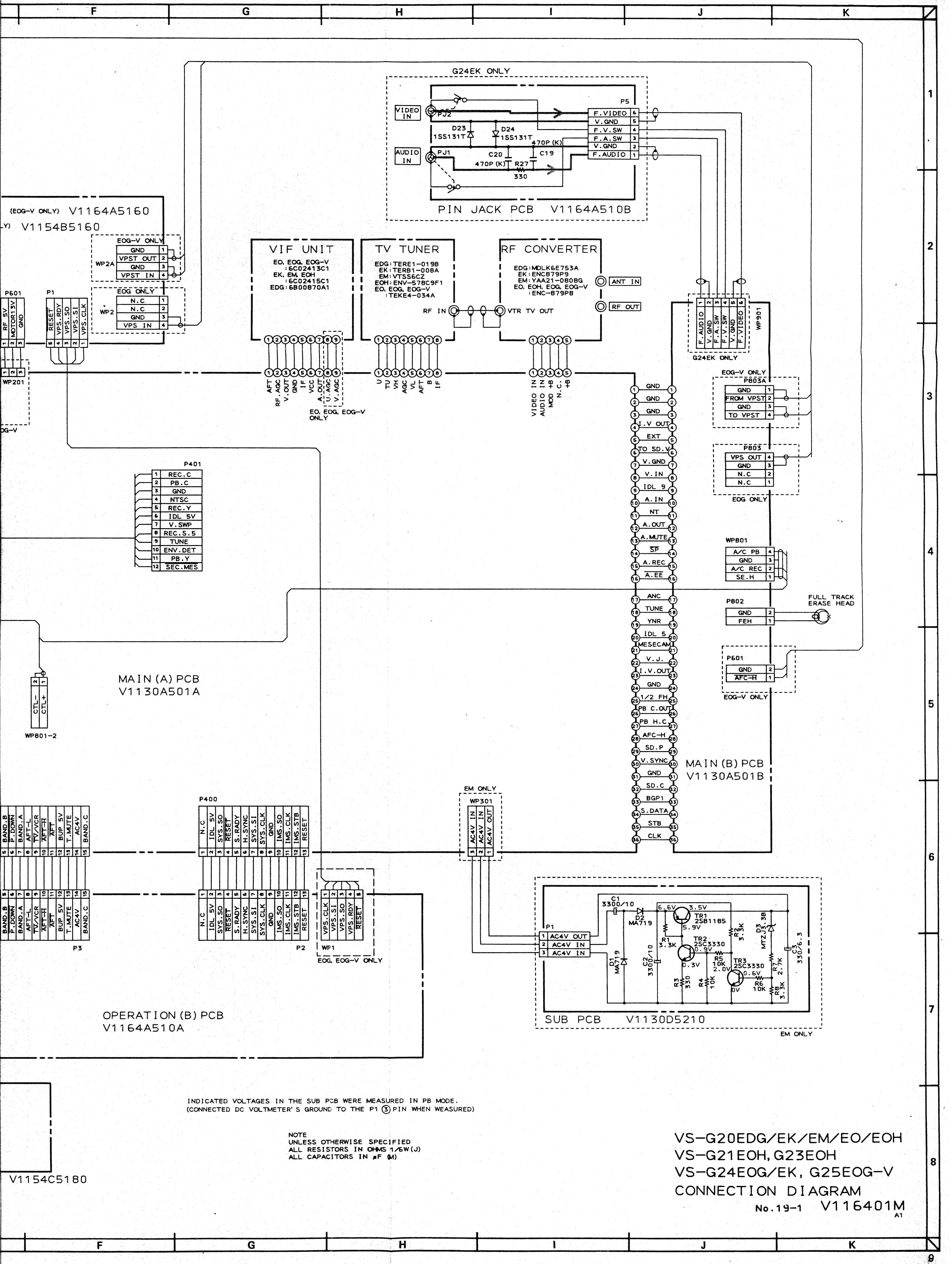
No.6-5 V116455M
A1


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
IC101 μPD78014CW
(VPT/PDC MI-COM)
SDA1 37
SDA2 38
SCL1 35
SCL2 36
IC RESET 3
FIELD 44
SYNC MUTE 2
PDC/VPT 9
VD PHASE 13
TX PHASE 12
IC102 ST24C04
(4K BIT EEPROM)
IC103 ST24C02
(2K BIT EEPROM)
A1
SCL
SDA
5V
P1
1 RESET
2 VPT RDY
3 VPT SO
4 VPT SI
5 VPT CLK
43 RESET
5 VPT RDY
7 VPT SO
6 VPT SI
8 VPT CLK
TO OPERATION (B) PCB WP1
(OPERATION MI-COM)
IC104 CF72307
(TELETEXT DECODER)
A0 ~ A7
D0 ~ D3
CAS 0 67
RAS 0 66
W 68
G 65
36 SDA
37 SCL
29 RESET
1 FIELD
2 DC SYNC
C SYNC IN 3
TACW 4
CLK IN 9
TDATA 11
T CLOCK 12
VIDEO IN 25
BLANK 15
RED OUT 24
GREEN OUT 25
BLUE OUT 26
TR4
+5V
IC105 V53C464AP-80
(64KX4 BIT D-RAM)
A0 ~ A7
I/O 1 ~ I/O 4
16 CAS
5 RAS
4 WE
1 OE
IC109 CF72306
(DATA SLICER)
19 SYNC
17 WIND
15 OSC OUT
13 TDATA
12 TCLK
C SIG 3
T SIG 1
S SIG 2
X102
13.875MHz
IC301 SAA4700
(VPS DATA DECODER)
8 SCL IN
9 S DATA
DATA 1
SYNC 2
BLANKING PULSE
IC106
LVA523S
H
N.C
TR1
EF
WP2
VPST IN 4
VPST OUT 2
TO MAIN (B) PCB P803
C159, L154
HPF
TR208
EF
IC108 MC1377P
(COLOUR TV RGB TO PAL ENCODER)
LATCHING RAMP GEN
COLOR DIFFERENCE AND LUMINANCE MATRIX
OUTPUT AMP/CLAMP
LPF
DUAL COMP
BURST PULSE DRIVE
R-Y
B-Y
B-Y CLAMP
R-Y CLAMP
PAL/NTSC CONTROL
VOLTAGE CONT90°
PAL SWITCH 0/180°
OSC/BUFFER
REG
TR204
EF
TR203
AMP
BPF
C151, L151, 152
LPF
TR151~153
6dB AMP & BUFFER
AFC H SYNC
IC107 AN3171K
(CARRIER AND ID PULSE GENERATOR)
PAL F-F
INPUT BUFFER
COLOR KILLER DET
APC DET
TINT CONT
ACC DET
COLOR CONTRAST
BAND PASS AMP
BURST GATE PULSE
LINE IDENT
PAL/NTSC CW SW
PAL CW SW
÷2 90°SHIFT
OSC
(R-Y) DEMOD
(B-Y) DEMOD
SYNC SEP
OUTPUT BIAS ADJ
ID PULS BUFFER
PAL/NTSC MODE SW
X103
8.867MHz
TR202
INV
D201
CLAMP
TR201
EF
TR154
EF
TR155
3dB
fsc
PHASE CORRECT
CARRIER OUT (180°)
ID PULSE
VPST/PDC PCB
Y IN (TUNER) SIGNAL
Y VPT SIGNAL
CHROMA IN (TUNER) SIGNAL
CHROMA VPT SIGNAL

VS-G25EOG-V
VPST/PDC
BLOCK DIAGRAM
No.6-6 V116456M
A2


A
B
C
D
E
F
1
2
3
4
5
6
7
8
DIODE PCB
V1164B508B
(EO, EOH, EOG ONLY)
DIODE PCB
V1130B506C
(EM ONLY)
WF1
POWER SUPPLY PCB
V1164B5120
(EK, EDG ONLY)
V1164B508A
(EO, EOG, EOH ONLY)
POWER SUPPLY (1) PCB
V1130B506A (EM ONLY)
V1161B505A (EOG-V ONLY)
POWER SUPPLY (2) PCB
V1130B506B (EM ONLY)
V1161B505B (EOG-V ONLY)
P1
GND
OPE 5V
IDL 5V
GND
OPE 9/12V
IDL 9/12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
GND
OPE 5V
IDL 5V
GND
OPE 12V
IDL 12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
VPST/PDC PCB (EOG-V ONLY) V1164A5160
VPS PCB (EOG ONLY) V1154B5160
EOG-V ONLY
AFC H
GND
WP3
EOG-V ONLY
GND
VPST OUT
GND
VPST IN
WP2A
EOG ONLY
N.C
N.C
GND
VPS IN
WP2
WP1
A.GND
IDL 5V
IDL12V
P601
RF 5V
MOTOR13V
GND
P1
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
P1
WP201
EOG, EOG-V ONLY
WF201
GND
OPE 5V
IDL 5V
GND
OPE 9/12V
IDL 9/12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
PRE AMP PCB
V1130B5100
VIDEO HEAD
NC
CH1 PB
CH1 REC
NC
CH2 REC
CH2 PB
REC.C
PB.C
GND
NTSC
REC.Y
IDL 5V
V.SWP
REC.S.5
TUNE
ENV.DET
PB.Y
SEC.MES
REC
PB.
GN
NTS
REC
IDL
V.S
REC.
TU
ENV.
PB
SEC
P301
PG
GND
FG
DM POW
M.GND
CONT
P G
GND
F G
DM POW
M.GND
CONT
DRUM
MOTOR BLK
P302
F/R̄
FG
CONT
LIMIT
IDL 5V
GND
CM.POW
P.GND
CAPSTAN
MOTOR
(RF-370C15370)
CTL-
CTL+
WP801-2
MAIN (A) P
V1130A50
AUDIO HEAD
S.ERASE HEAD
CTL HEAD
A/C PB
A/C REC
GND
S E
CTL-
CTL+
A/C HEAD PCB
V1102B5120
P303
S.SEN
RSW.1
RSW.2
RSW.3
RSW.4
IDL 5V
T.REEL.P
END.SEN
S.REEL.P
GND
LM+
LM-
REC.SAF
P304
-35V
GND
AC4V
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC4V
BAND.C
P3
SW1
MODE DETECT SW
P1
GND
RSW 1
RSW 2
RSW 3
RSW 4
WP1
S.SEN
RSW.1
RSW.2
RSW.3
RSW.4
IDL 5V
T.REEL.P
END.SEN
S.REEL.P
GND
LM+
LM-
REC.SAF
REC SAFETY SW
LOADING MOTOR
RF-370C15370
JW1
JW2
TR4
PT493F
TR2
PT4800
D2
GL4800
D1
GL451
R1
62
TR1
PN268
SENSOR PCB V1102A507A
SENSOR (S) PCB
V1102A507B
OPERATION (
V1164A510A
P4
S-VHS SW
GND
S-VHS TYPE DETECT SW
(NOR: ON)
S-SWITCH PCB V1154C5180
: B (POWER SUPPLY) LINE
: AUDIO REC SIGNAL
: VIDEO REC SIGNAL

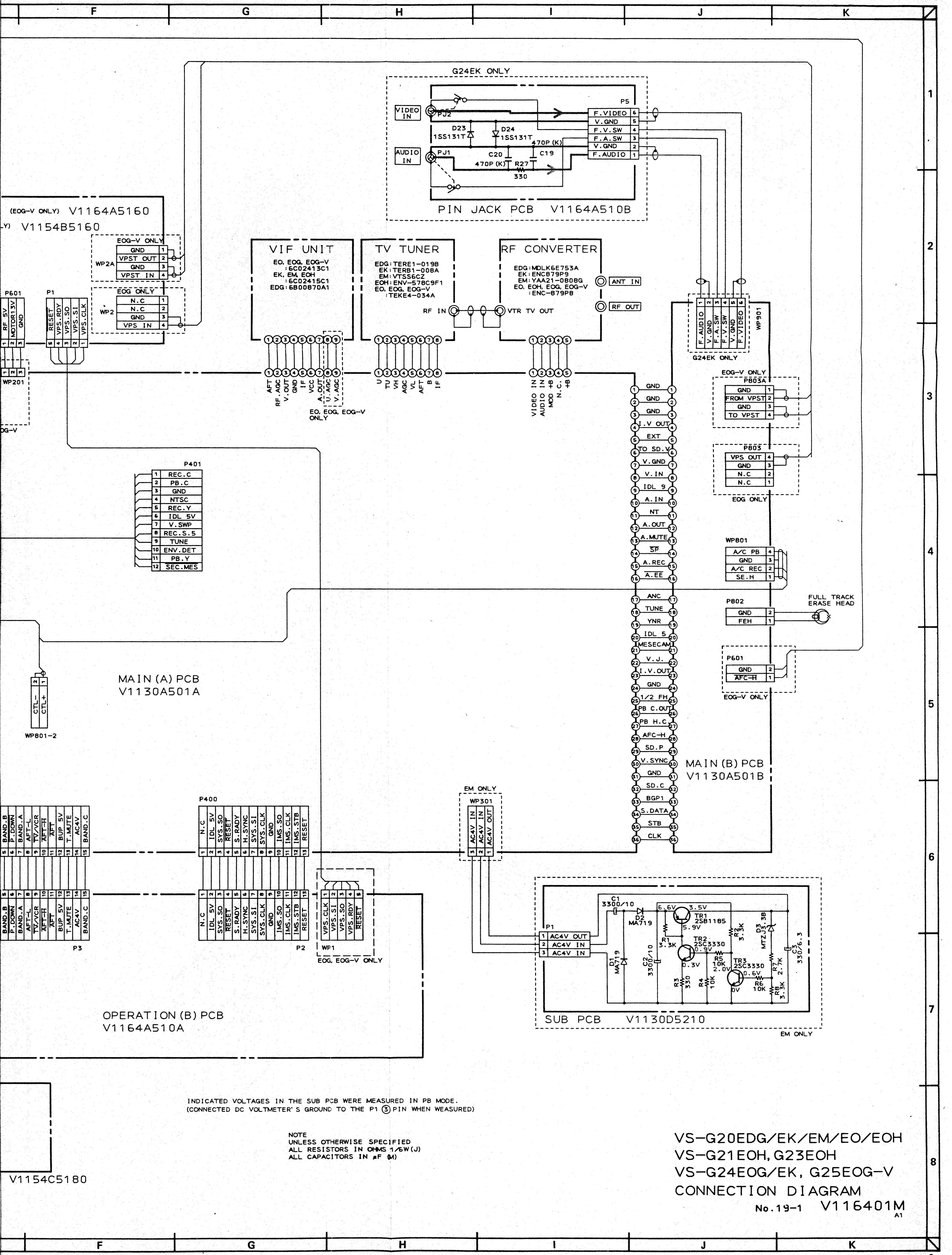

DIODE PCB
V1164B508B
(EO, EOH, EOG ONLY)
DIODE PCB
V1130B506C
(EM ONLY)
WF1
POWER SUPPLY PCB
V1164B5120
(EK, EDG ONLY)
V1164B508A
(EO, EOG, EOH ONLY)
POWER SUPPLY (1) PCB
V1130B506A (EM ONLY)
V1161B505A (EOG-V ONLY)
POWER SUPPLY (2) PCB
V1130B506B (EM ONLY)
V1161B505B (EOG-V ONLY)
P1
GND
OPE 5V
IDL 5V
GND
OPE 9/12V
IDL 9/12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
OPE 12V
IDL 12V
VPST/PDC PCB (EOG-V ONLY) V1164A5160
VPS PCB (EOG ONLY) V1154B5160
EOG-V ONLY
AFC H
GND
WP3
WP2A
VPST OUT
VPST IN
EOG ONLY
N.C
WP2
VPS IN
WP1
A.GND
IDL 5V
IDL12V
P601
RF 5V
MOTOR13V
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
WP201
EOG, EOG-V ONLY
WF201
PRE AMP PCB
V1130B5100
VIDEO HEAD
NC
CH1 PB
CH1 REC
CH2 REC
CH2 PB
REC.C
PB.C
NTSC
REC.Y
V.SWP
REC.S.5
TUNE
ENV.DET
PB.Y
SEC.MES
P301
PG
FG
DM POW
M.GND
CONT
DRUM MOTOR BLK
P302
F/R̄
LIMIT
CM.POW
P.GND
CAPSTAN MOTOR
(RF-370C15370)
AUDIO HEAD
S.ERASE HEAD
CTL HEAD
A/C PB
A/C REC
S E
CTL-
CTL+
A/C HEAD PCB
V1102B5120
WP801-2
MAIN (A) P
V1130A50
P303
S.SEN
RSW.1
RSW.2
RSW.3
RSW.4
T.REEL.P
END.SEN
S.REEL.P
LM+
LM-
REC.SAF
P304
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
BAND.C
P3
SW1
MODE DETECT SW
RSW 1
RSW 2
RSW 3
RSW 4
REC SAFETY SW
LOADING MOTOR
RF-370C15370
JW1
JW2
TR4
PT493F
TR2
PT4800
D2
GL4800
D1
GL451
R1
62
TR1
PN268
SENSOR PCB V1102A507A
SENSOR (S) PCB
V1102A507B
OPERATION (
V1164A510A
P4
S-VHS SW
S-VHS TYPE DETECT SW
(NOR : ON)
S-SWITCH PCB V1154C5180
: B (POWER SUPPLY) LINE
: AUDIO REC SIGNAL
: VIDEO REC SIGNAL
A
B
C
D
E
F
1
2
3
4
5
6
7
8


F
G
H
I
J
K
1
2
3
4
5
6
7
8
G24EK ONLY
VIDEO IN
AUDIO IN
PJ2
PJ1
D23 1SS131T
D24 1SS131T
C20
470P (K)
R27
330
C19
470P (K)
P5
F.VIDEO 6
V.GND 5
F.V.SW 4
F.A.SW 3
V.GND 2
F.AUDIO 1
PIN JACK PCB V1164A510B
(EOG-V ONLY) V1164A5160
V1154B5160
EOG-V ONLY
WP2A
GND 1
VPST OUT 2
GND 3
VPST IN 4
EOG ONLY
WP2
N.C 1
N.C 2
GND 3
VPS IN 4
P601
RF 5V
MOTOR13V
GND
P1
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
WP201
EOG-V
VIF UNIT
EO, EOG, EOG-V :6C02413C1
EK, EM, EOH :6C02415C1
EDG:6B00870A1
AFT
RF.AGC
V.OUT
GND
IF
VCC
A.OUT
U.AGC
V.AGC
EO, EOG, EOG-V ONLY
TV TUNER
EDG:TERE1-019B
EK:TERB1-008A
EM:VTSS6CZ
EOH:ENV-57BC9F1
EO, EOG, EOG-V :TEKE4-034A
RF IN
U
TU
VH
AGC
VL
AFT
B
IF
RF CONVERTER
EDG:MDLK6E753A
EK:ENCB79P9
EM:YAA21-0808G
EO, EOH, EOG, EOG-V :ENC-879P8
ANT IN
RF OUT
VTR TV OUT
VIDEO IN
AUDIO IN
MOD +B
N.C.
+B
WP901
F.AUDIO 1
V.GND 2
F.A.SW 3
F.V.SW 4
V.GND 5
F.VIDEO 6
G24EK ONLY
1 GND
2 GND
3 GND
4 I.V OUT
5 EXT
6 TO SD.V
7 V.GND
8 V.IN
9 IDL 9
10 A.IN
11 NT
12 A.OUT
13 A.MUTE
14 SP
15 A.REC
16 A.EE
17 ANC
18 TUNE
19 YNR
20 IDL 5
21 MESECAM
22 V.J.
23 I.V.OUT
24 GND
25 1/2 FH
26 PB C.OUT
27 PB H.C
28 AFC-H
29 SD.P
30 V.SYNC
31 GND
32 SD.C
33 BGP1
34 S.DATA
35 STB
36 CLK
EOG-V ONLY
P803A
GND 1
FROM VPST 2
GND 3
TO VPST 4
P803
VPS OUT 4
GND 3
N.C 2
N.C 1
EOG ONLY
WP801
A/C PB 4
GND 3
A/C REC 2
SE.H 1
P802
GND 2
FEH 1
FULL TRACK ERASE HEAD
P601
GND 2
AFC-H 1
EOG-V ONLY
P401
1 REC.C
2 PB.C
3 GND
4 NTSC
5 REC.Y
6 IDL 5V
7 V.SWP
8 REC.S.5
9 TUNE
10 ENV.DET
11 PB.Y
12 SEC.MES
MAIN (A) PCB V1130A501A
CTL-
CTL+
WP801-2
MAIN (B) PCB V1130A501B
EM ONLY
WP301
AC4V IN
AC4V IN
AC4V OUT
P400
N.C
IDL 5V
SYS.SO
RESET
S.RADY
H.SYNC
SYS.SI
SYS.CLK
GND
IMS.SO
IMS.CLK
IMS.STB
RESET
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC4V
BAND.C
P3
P2
WP1
VPS.CLK
VPS.SI
VPS.SO
VPS.RDY
RESET
EOG, EOG-V ONLY
C1 3300/10
D2 MA719
6.6V
3.5V
TR1 2SB1185
5.9V
R1 3.3K
TR2 2SC3330
0.9V
0.3V
R2 3.3K
D3 MTZJ3.3B
C3 330/6.3
P1
1 AC4V OUT
2 AC4V IN
3 AC4V IN
D1 MA719
C2 3300/10
R3 330
R4 10K
R5 10K
2.0V
TR3 2SC3330
0.6V
R6 10K
0V
R7 2.7K
R8 3.3K
SUB PCB V1130D5210
EM ONLY
OPERATION (B) PCB V1164A510A
V1154C5180

INDICATED VOLTAGES IN THE SUB PCB WERE MEASURED IN PB MODE.
(CONNECTED DC VOLTMETER'S GROUND TO THE P1 ③ PIN WHEN MEASURED)

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF (M)

VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
CONNECTION DIAGRAM
No.19-1 V116401M
A1

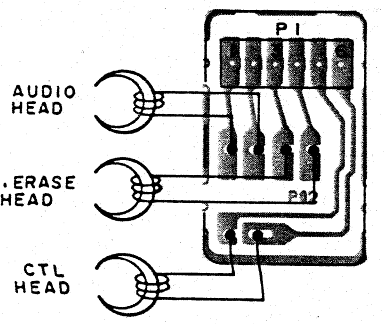


F
G
H
I
J
K
1
2
3
4
5
6
7
8
G24EK ONLY
VIDEO IN
AUDIO IN
PJ2
PJ1
D23 1SS131T
D24 1SS131T
470P (K)
C20
C19
470P (K)
R27 330
P5
F.VIDEO 6
V.GND 5
F.V.SW 4
F.A.SW 3
V.GND 2
F.AUDIO 1
PIN JACK PCB V1164A510B
(EOG-V ONLY) V1164A5160
V1154B5160
EOG-V ONLY
WP2A
GND 1
VPST OUT 2
GND 3
VPST IN 4
EOG ONLY
WP2
N.C 1
N.C 2
GND 3
VPS IN 4
P601
RF 5V
MOTOR13V
GND
P1
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
WP201
VIF UNIT
EO, EOG, EOG-V :6C02413C1
EK, EM, EOH :6C02415C1
EDG:6B00870A1
AFT
RF.AGC
V.OUT
GND
IF
VCC
A.OUT
U.AGC
V.AGC
EO, EOG, EOG-V ONLY
TV TUNER
EDG:TERE1-019B
EK:TERB1-008A
EM:VTSS6CZ
EOH:ENV-57BC9F1
EO, EOG, EOG-V :TEKE4-034A
RF IN
U
TU
VH
AGC
VL
AFT
B
IF
RF CONVERTER
EDG:MDLK6E753A
EK:ENCB79P9
EM:YAA21-0808G
EO, EOH, EOG, EOG-V :ENC-879P8
ANT IN
RF OUT
VTR TV OUT
VIDEO IN
AUDIO IN
MOD +B
N.C.
+B
WP901
F.AUDIO
V.GND
F.A.SW
F.V.SW
V.GND
F.VIDEO
G24EK ONLY
GND
GND
GND
I.V OUT
EXT
TO SD.V
V.GND
V.IN
IDL 9
A.IN
NT
A.OUT
A.MUTE
SP
A.REC
A.EE
ANC
TUNE
YNR
IDL 5
MESECAM
V.J.
I.V.OUT
GND
1/2 FH
PB C.OUT
PB H.C
AFC-H
SD.P
V.SYNC
GND
SD.C
BGP1
S.DATA
STB
CLK
EOG-V ONLY
P803A
GND 1
FROM VPST 2
GND 3
TO VPST 4
P803
VPS OUT 4
GND 3
N.C 2
N.C 1
EOG ONLY
WP801
A/C PB 4
GND 3
A/C REC 2
SE.H 1
P802
GND 2
FEH 1
FULL TRACK ERASE HEAD
P601
GND 2
AFC-H 1
EOG-V ONLY
P401
REC.C
PB.C
GND
NTSC
REC.Y
IDL 5V
V.SWP
REC.S.5
TUNE
ENV.DET
PB.Y
SEC.MES
MAIN (A) PCB V1130A501A
MAIN (B) PCB V1130A501B
CTL-
CTL+
WP801-2
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC4V
BAND.C
P3
P400
N.C
IDL 5V
SYS.SO
RESET
S.RADY
H.SYNC
SYS.SI
SYS.CLK
GND
IMS.SO
IMS.CLK
IMS.STB
RESET
P2
WP1
VPS.CLK
VPS.SI
VPS.SO
VPS.RDY
RESET
EOG, EOG-V ONLY
EM ONLY
WP301
AC4V IN
AC4V IN
AC4V OUT
OPERATION (B) PCB V1164A510A
V1154C5180
P1
AC4V OUT
AC4V IN
AC4V IN
C1 3300/10
D2 MA719
6.6V
3.5V
TR1 2SB1185
5.9V
R1 3.3K
TR2 2SC3330
0.9V
0.3V
R2 3.3K
D3 MTZJ3.3B
C3 330/6.3
D1 MA719
C2 3300/10
R3 330
R4 10K
R5 10K
2.0V
TR3 2SC3330
0.6V
R6 10K
R7 2.7K
R8 3.3K
0V
SUB PCB V1130D5210
EM ONLY

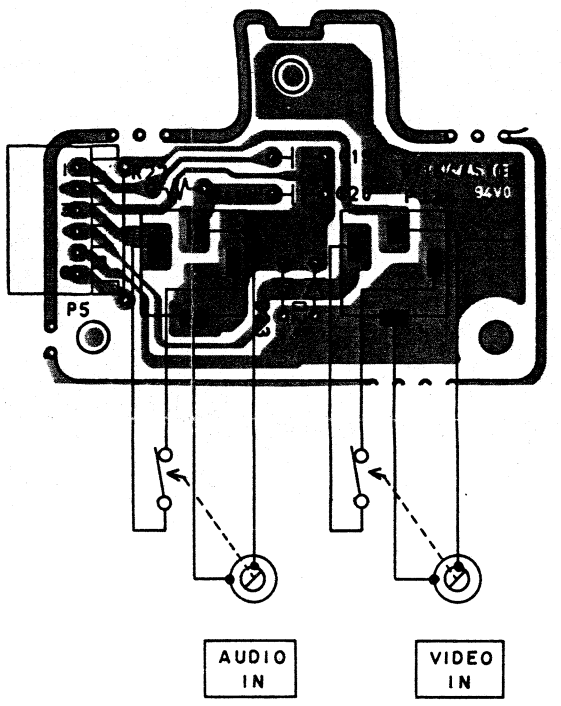
INDICATED VOLTAGES IN THE SUB PCB WERE MEASURED IN PB MODE.
(CONNECTED DC VOLTMETER'S GROUND TO THE P1 ③ PIN WHEN MEASURED)

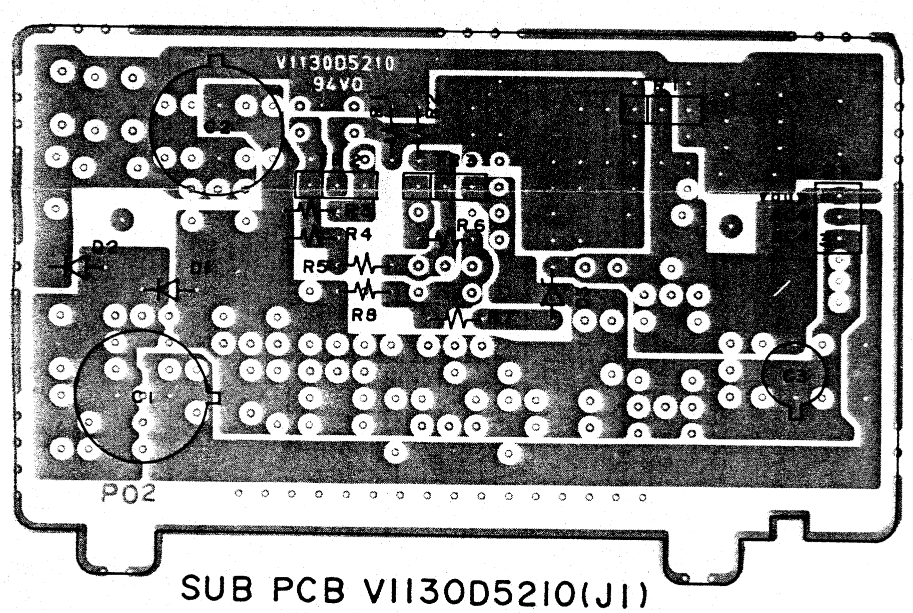
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF (M)

VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
CONNECTION DIAGRAM
No.19-1 V116401M
A1


P1
AUDIO HEAD
S.ERASE HEAD
P12
CTL HEAD

A/C HEAD PCB
V1102B5120(J1)

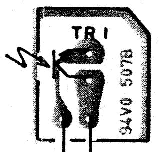

P5
94V0
AUDIO IN
VIDEO IN

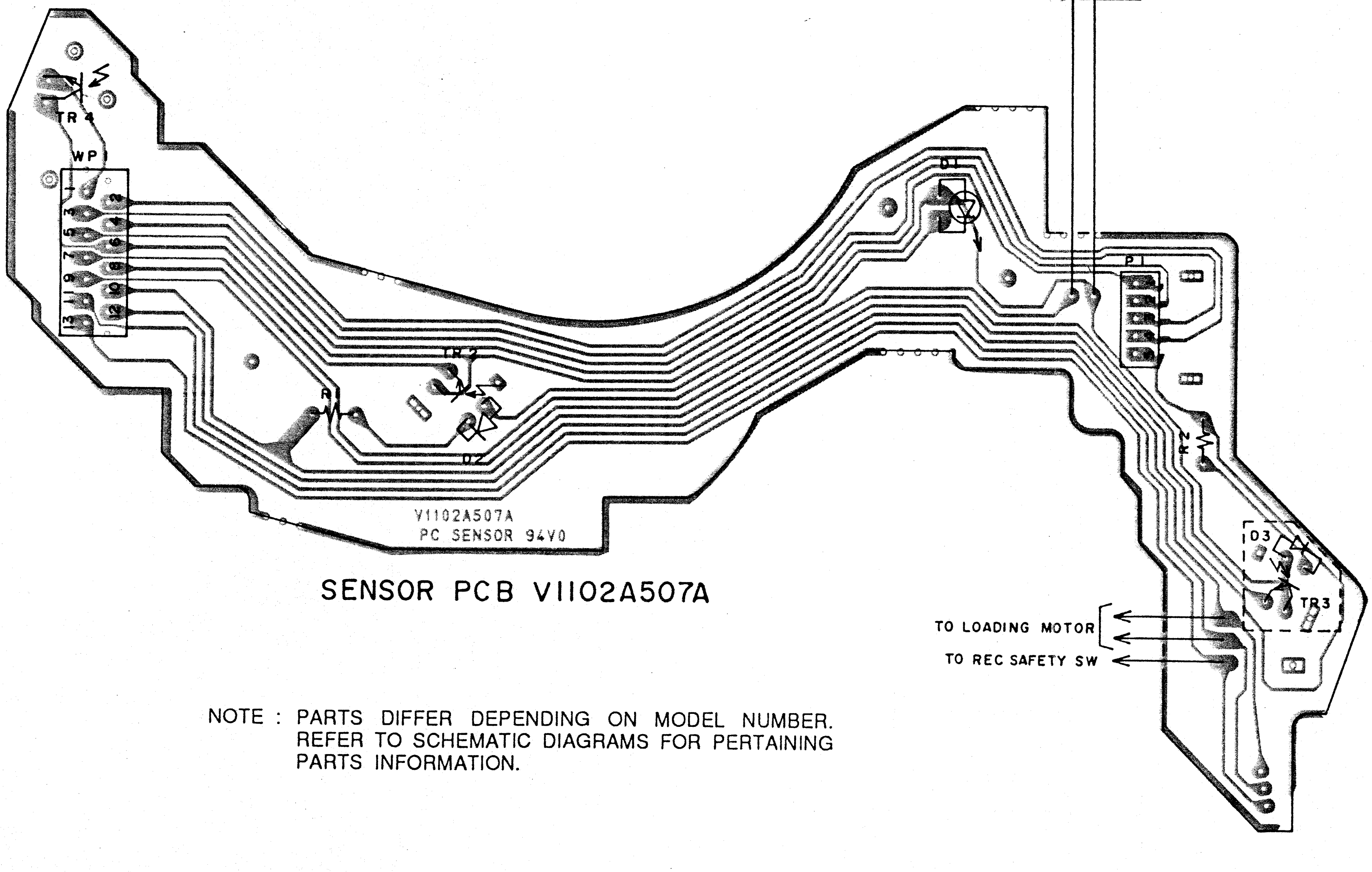

V1130D5210
94V0
D2
D6
R4
R5
R6
R8
C1
P02

SUB PCB V1130D5210(J1)
(EM ONLY)

PIN JACK PCB V1164A510B(G24EK ONLY)

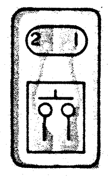
SENSOR(S) PCB
V1102A507B


TR1
94V0 507B


TR4
WP1
1
2
3
4
5
6
7
8
9
10
11
12
13
TR2
R1
D2
D1
P1
R2
D3
TR3
V1102A507A
PC SENSOR 94V0
TO LOADING MOTOR
TO REC SAFETY SW

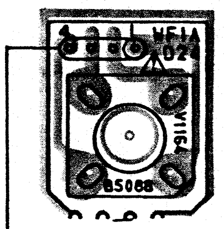
SENSOR PCB V1102A507A

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING PARTS INFORMATION.

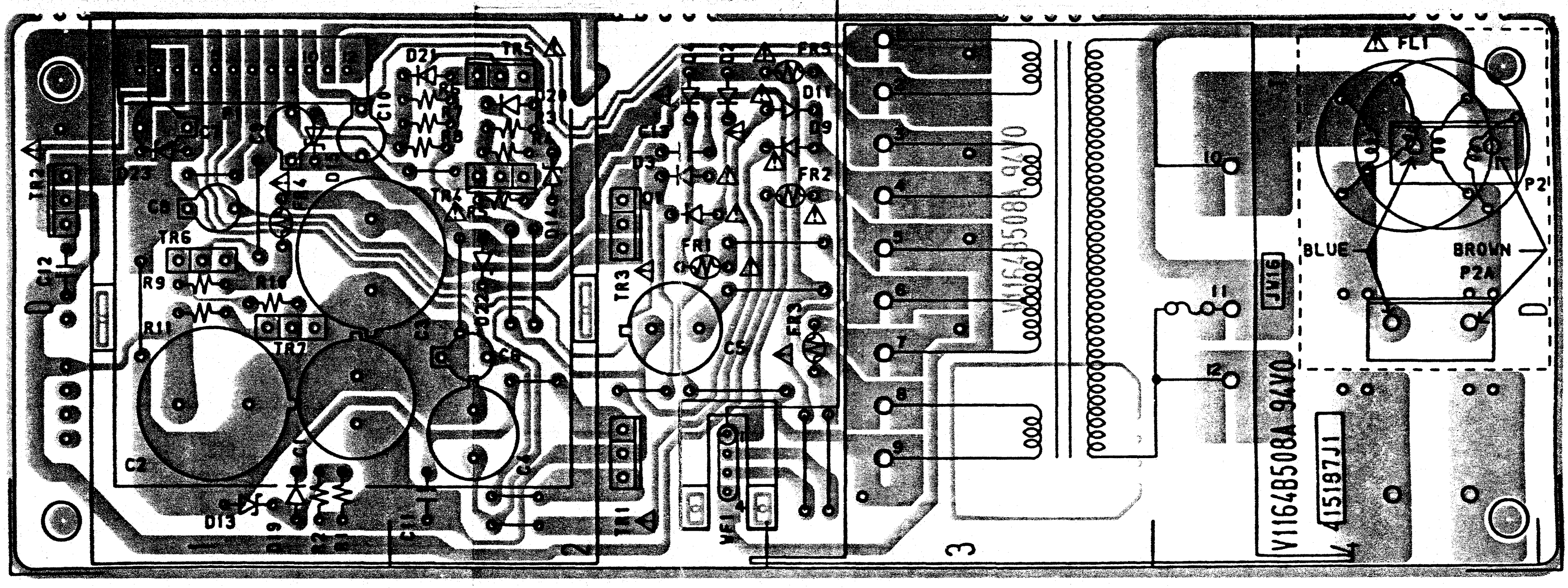


S-SWITCH PCB
V1154C5180

DIODE PCB
V1164B508B(J1)


WF1A
D2
B5088

EK ONLY)

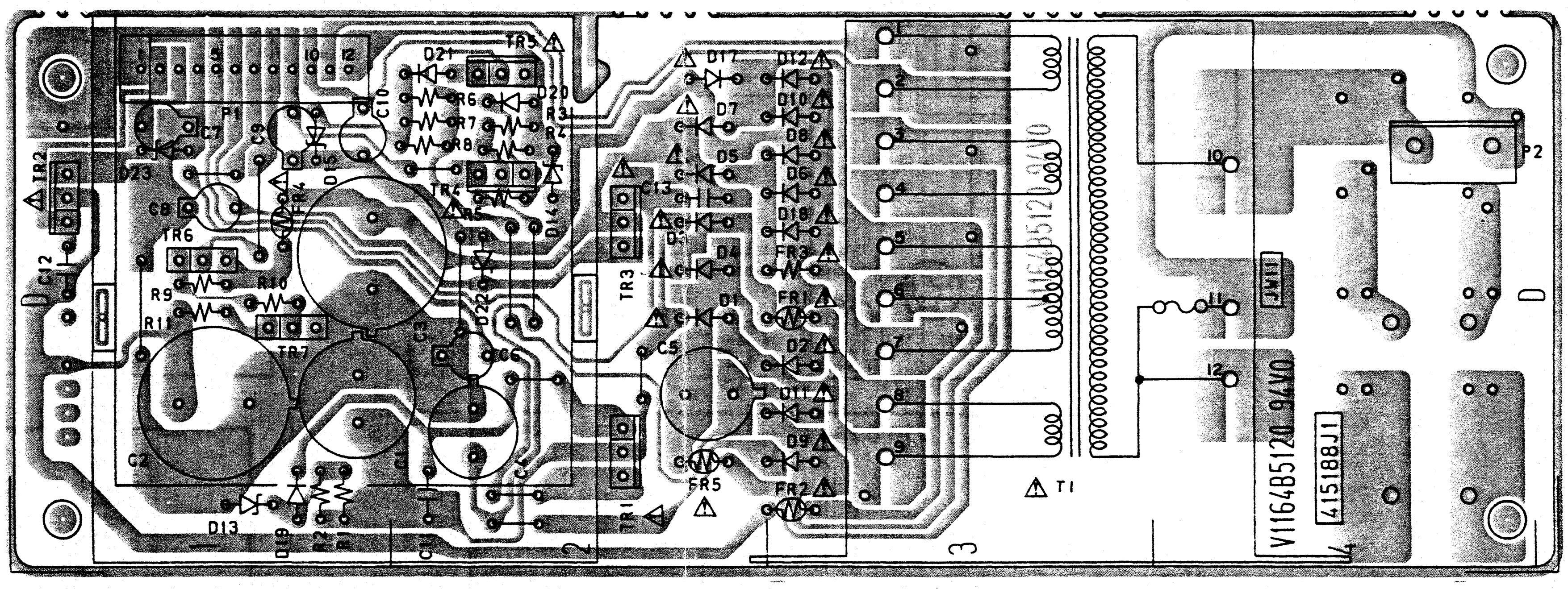

D21
TR5
C10
D11
FR3
D9
FR2
TR2
TR4
TR6
C8
R9
R10
R11
TR7
C2
D13
TR3
FR1
C5
FR4
TR1
WF1
FL1
P2
BLUE
BROWN
P2A
V1164B508A 94V0
415197J1
3
2
1

POWER SUPPLY PCB V1164B508A(J1) (EO,EOG,EOH ONLY)

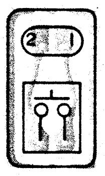
NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

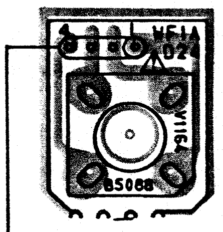

D21
TR5
R6
R7
R8
R3
R4
D20
C10
C7
C9
D23
TR2
D15
C8
TR6
R9
R10
R11
TR7
C2
C3
C6
D13
D17
D12
D7
D10
D8
D5
D6
C13
D18
D4
FR3
D1
FR1
D2
D11
D9
FR5
FR2
TR3
TR1
C5
T1
P2
V1164B5120 94V0
415188J1
3
2
1

POWER SUPPLY PCB V1164B5120(J1) (EK.EDG ONLY)

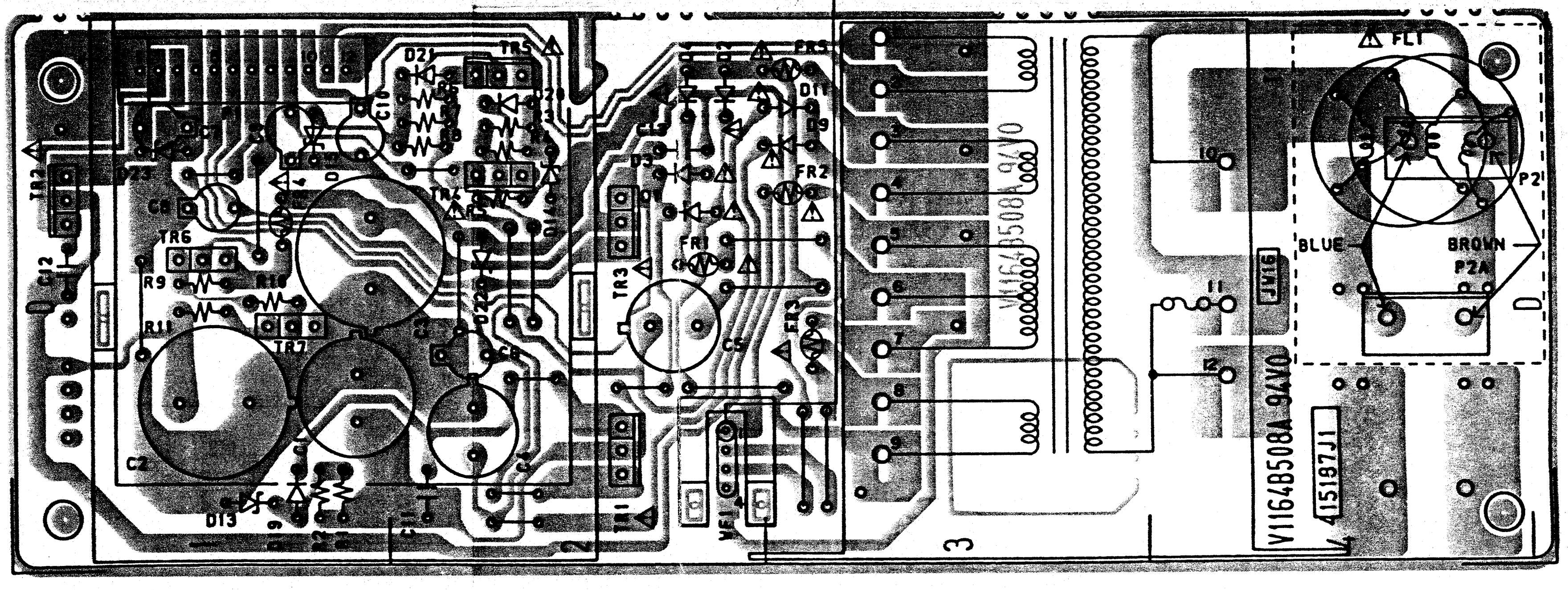


S-SWITCH PCB
V1154C5180

DIODE PCB
V1164B508B(J1)



EK ONLY)



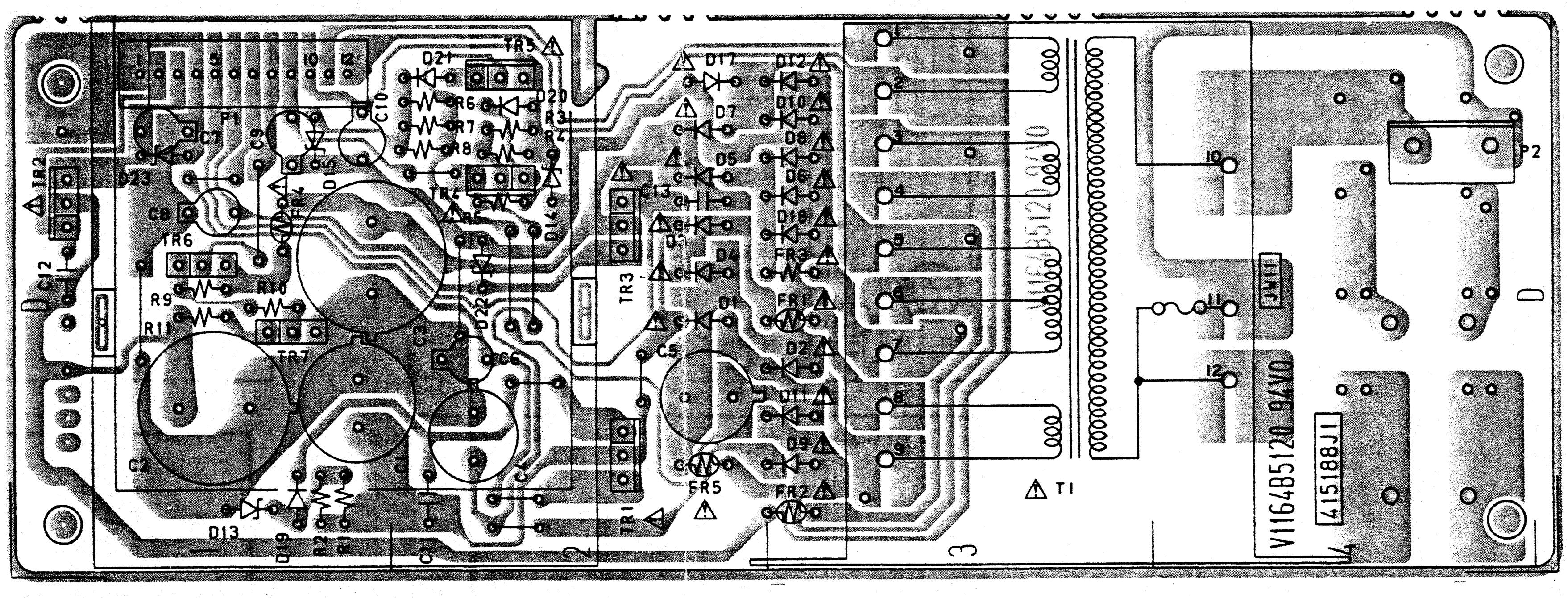
D21
TR5
D23
C8
TR6
R9
R11
TR7
C2
D13
TR2
C12
TR3
FR1
FR2
FR3
C5
WF1
TR1
FL1
BLUE
BROWN
P2
P2A
LV16
V1164B508A 94V0
415197J1

POWER SUPPLY PCB V1164B508A(J1) (EO,EOG,EOH ONLY)

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

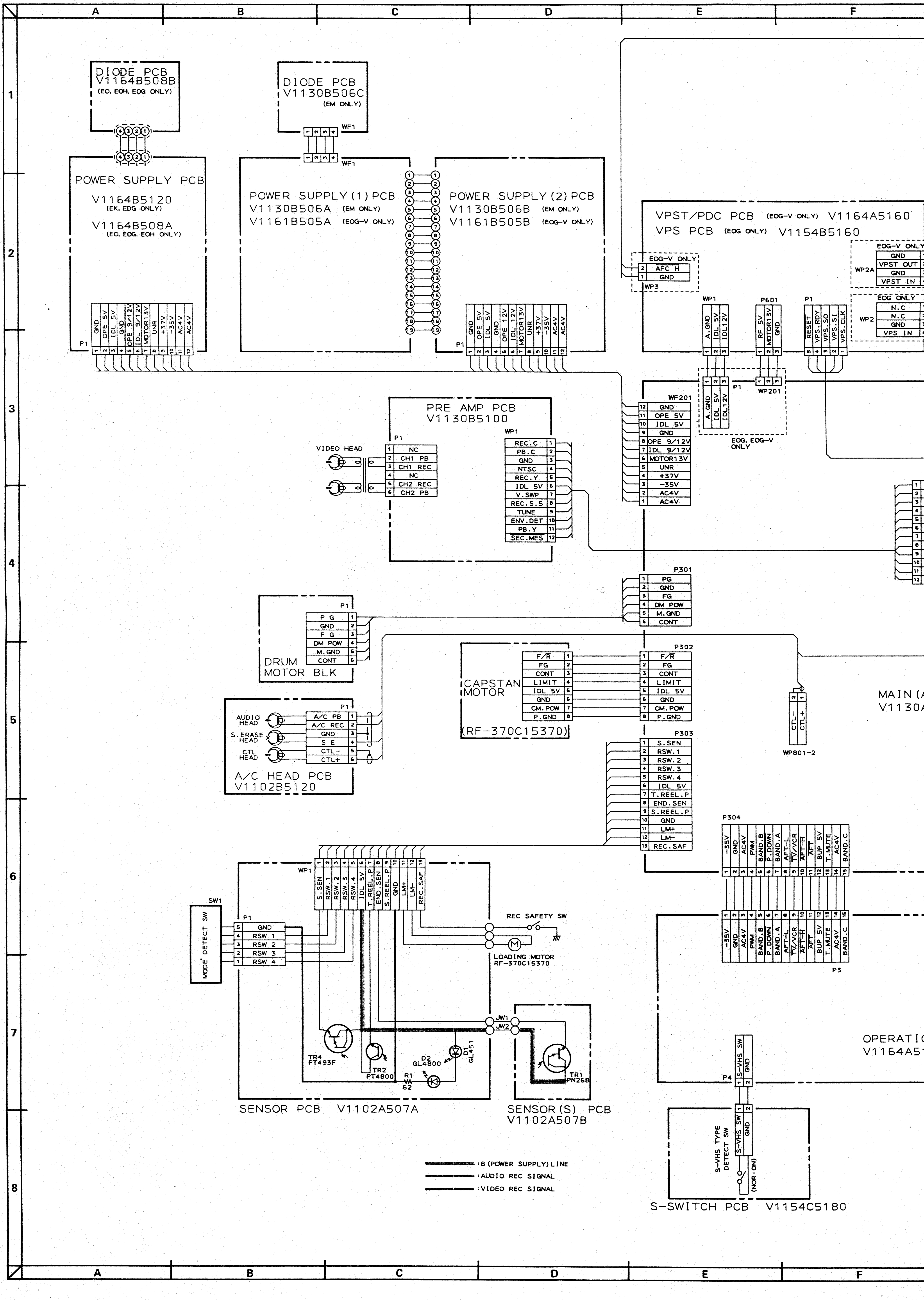
WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

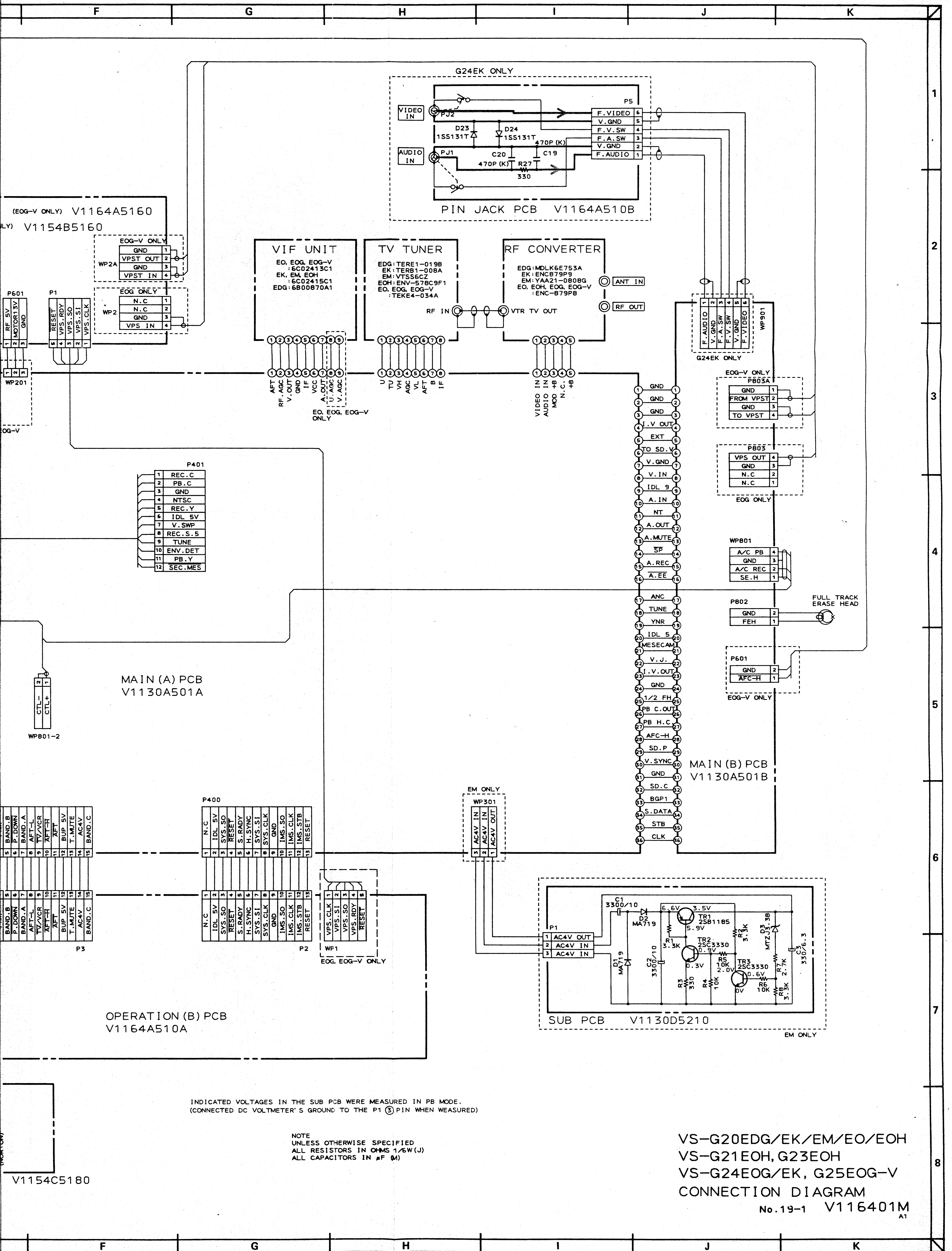
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT



D21
TR5
C10
C7
P1
C9
D23
C8
TR6
R9
R10
R11
TR7
C2
D13
TR2
C12
TR3
TR1
D17
D12
D10
D7
D8
D5
D6
C13
D18
FR3
FR1
D1
D2
D11
D9
FR5
FR2
C5
T1
P2
V1164B5120 94V0
415188J1

POWER SUPPLY PCB V1164B5120(J1) (EK.EDG ONLY)

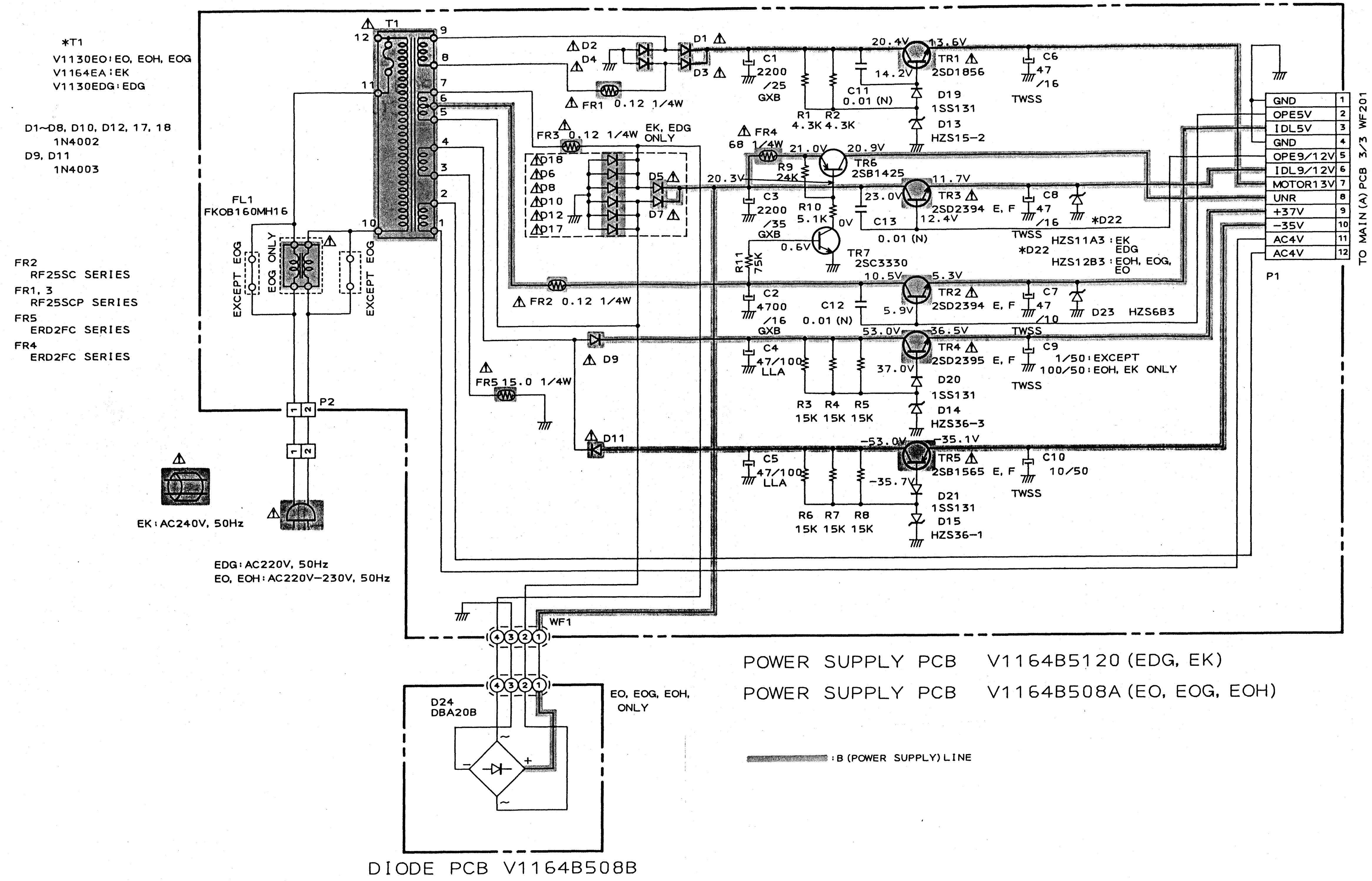

A
B
C
D
E
F
1
2
3
4
5
6
7
8
DIODE PCB
V1164B508B
(EO, EOH, EOG ONLY)
DIODE PCB
V1130B506C
(EM ONLY)
WF1
POWER SUPPLY PCB
V1164B5120
(EK, EDG ONLY)
V1164B508A
(EO, EOG, EOH ONLY)
POWER SUPPLY (1) PCB
V1130B506A (EM ONLY)
V1161B505A (EOG-V ONLY)
POWER SUPPLY (2) PCB
V1130B506B (EM ONLY)
V1161B505B (EOG-V ONLY)
P1
GND
OPE 5V
IDL 5V
GND
OPE 9/12V
IDL 9/12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
GND
OPE 5V
IDL 5V
GND
OPE 12V
IDL 12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
VPST/PDC PCB (EOG-V ONLY) V1164A5160
VPS PCB (EOG ONLY) V1154B5160
EOG-V ONLY
AFC H
GND
WP3
WP1
A.GND
IDL 5V
IDL12V
P601
RF 5V
MOTOR13V
GND
P1
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
WP2A
EOG-V ONLY
GND
VPST OUT
GND
VPST IN
WP2
EOG ONLY
N.C
N.C
GND
VPS IN
P1
WP201
EOG, EOG-V ONLY
WF201
GND
OPE 5V
IDL 5V
GND
OPE 9/12V
IDL 9/12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
PRE AMP PCB
V1130B5100
VIDEO HEAD
P1
NC
CH1 PB
CH1 REC
NC
CH2 REC
CH2 PB
WP1
REC.C
PB.C
GND
NTSC
REC.Y
IDL 5V
V.SWP
REC.S.5
TUNE
ENV.DET
PB.Y
SEC.MES
P301
PG
GND
FG
DM POW
M.GND
CONT
P1
P G
GND
F G
DM POW
M.GND
CONT
DRUM
MOTOR BLK
P302
F/R̄
FG
CONT
LIMIT
IDL 5V
GND
CM.POW
P.GND
CAPSTAN
MOTOR
(RF-370C15370)
MAIN (A
V1130A
CTL-
CTL+
WP801-2
P1
AUDIO HEAD
S.ERASE HEAD
CTL HEAD
A/C PB
A/C REC
GND
S E
CTL-
CTL+
A/C HEAD PCB
V1102B5120
P303
S.SEN
RSW.1
RSW.2
RSW.3
RSW.4
IDL 5V
T.REEL.P
END.SEN
S.REEL.P
GND
LM+
LM-
REC.SAF
P304
-35V
GND
AC4V
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC4V
BAND.C
P3
WP1
S.SEN
RSW.1
RSW.2
RSW.3
RSW.4
IDL 5V
T.REEL.P
END.SEN
S.REEL.P
GND
LM+
LM-
REC.SAF
SW1
MODE DETECT SW
P1
GND
RSW 1
RSW 2
RSW 3
RSW 4
REC SAFETY SW
LOADING MOTOR
RF-370C15370
JW1
JW2
TR4
PT493F
TR2
PT4800
R1
62
D2
GL4800
D1
GL451
TR1
PN268
SENSOR PCB V1102A507A
SENSOR (S) PCB
V1102A507B
OPERATIO
V1164A5
P4
S-VHS SW
GND
S-VHS TYPE DETECT SW
(NOR: ON)
S-SWITCH PCB V1154C5180
: B (POWER SUPPLY) LINE
: AUDIO REC SIGNAL
: VIDEO REC SIGNAL


F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
G24EK ONLY
VIDEO IN
AUDIO IN
PJ2
PJ1
D23
1SS131T
D24
1SS131T
470P (K)
C20
C19
470P (K)
R27
330
P5
F.VIDEO 6
V.GND 5
F.V.SW 4
F.A.SW 3
V.GND 2
F.AUDIO 1
PIN JACK PCB V1164A510B
(EOG-V ONLY) V1164A5160
V1154B5160
EOG-V ONLY
WP2A
GND 1
VPST OUT 2
GND 3
VPST IN 4
EOG ONLY
WP2
N.C 1
N.C 2
GND 3
VPS IN 4
P601
RF 5V
MOTOR13V
GND
P1
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
WP201
EOG-V
VIF UNIT
EO, EOG, EOG-V :6C02413C1
EK, EM, EOH :6C02415C1
EDG:6B00870A1
AFT
RF.AGC
V.OUT
GND
IF
VCC
A.OUT
U.AGC
V.AGC
EO, EOG, EOG-V ONLY
TV TUNER
EDG:TERE1-019B
EK:TERB1-008A
EM:VTSS6CZ
EOH:ENV-578C9F1
EO, EOG, EOG-V :TEKE4-034A
U
TU
VH
AGC
VL
AFT
B
IF
RF IN
VTR TV OUT
RF CONVERTER
EDG:MDLK6E753A
EK:ENCB79P9
EM:YAA21-0808G
EO, EOH, EOG, EOG-V :ENC-879P8
ANT IN
RF OUT
VIDEO IN
AUDIO IN
MOD +B
N.C.
+B
WP901
F.AUDIO 1
V.GND 2
F.A.SW 3
F.V.SW 4
V.GND 5
F.VIDEO 6
G24EK ONLY
EOG-V ONLY
P803A
GND 1
FROM VPST 2
GND 3
TO VPST 4
P803
VPS OUT 4
GND 3
N.C 2
N.C 1
EOG ONLY
WP801
A/C PB 4
GND 3
A/C REC 2
SE.H 1
P802
GND 2
FEH 1
FULL TRACK ERASE HEAD
P601
GND 2
AFC-H 1
EOG-V ONLY
1 GND
2 GND
3 GND
4 I.V OUT
5 EXT
6 TO SD.V
7 V.GND
8 V.IN
9 IDL 9
10 A.IN
11 NT
12 A.OUT
13 A.MUTE
14 SP
15 A.REC
16 A.EE
17 ANC
18 TUNE
19 YNR
20 IDL 5
21 MESECAM
22 V.J.
23 I.V.OUT
24 GND
25 1/2 FH
26 PB C.OUT
27 PB H.C
28 AFC-H
29 SD.P
30 V.SYNC
31 GND
32 SD.C
33 BGP1
34 S.DATA
35 STB
36 CLK
MAIN (B) PCB V1130A501B
P401
1 REC.C
2 PB.C
3 GND
4 NTSC
5 REC.Y
6 IDL 5V
7 V.SWP
8 REC.S.5
9 TUNE
10 ENV.DET
11 PB.Y
12 SEC.MES
MAIN (A) PCB V1130A501A
CTL-
CTL+
WP801-2
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC4V
BAND.C
P3
P400
N.C
IDL 5V
SYS.SO
RESET
S.RADY
H.SYNC
SYS.SI
SYS.CLK
GND
IMS.SO
IMS.CLK
IMS.STB
RESET
P2
VPS.CLK
VPS.SI
VPS.SO
VPS.RDY
RESET
WP1
EOG, EOG-V ONLY
EM ONLY
WP301
AC4V IN
AC4V IN
AC4V OUT
OPERATION (B) PCB V1164A510A
C1 3300/10
D2 MA719
6.6V
3.5V
TR1 2SB1185
5.9V
R2 3.3K
D3 MTZJ3.3B
R1 3.3K
TR2 2SC3330
0.9V
C3 330/6.3
P1
1 AC4V OUT
2 AC4V IN
3 AC4V IN
D1 MA719
C2 3300/10
0.3V
R5 10K
2.0V
TR3 2SC3330
0.6V
R7 2.7K
R3 330
R4 10K
R6 10K
0V
R8 3.3K
SUB PCB V1130D5210
EM ONLY
V1154C5180

INDICATED VOLTAGES IN THE SUB PCB WERE MEASURED IN PB MODE.
(CONNECTED DC VOLTMETER'S GROUND TO THE P1 ③ PIN WHEN MEASURED)

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF (M)

VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
CONNECTION DIAGRAM
No.19-1 V116401M
A1


*T1
V1130EO: EO, EOH, EOG
V1164EA: EK
V1130EDG: EDG
D1~D8, D10, D12, 17, 18
1N4002
D9, D11
1N4003
FR2
RF25SC SERIES
FR1, 3
RF25SCP SERIES
FR5
ERD2FC SERIES
FR4
ERD2FC SERIES
T1
FL1
FKOB160MH16
EXCEPT EOG
EOG ONLY
EXCEPT EOG
P2
EK: AC240V, 50Hz
EDG: AC220V, 50Hz
EO, EOH: AC220V–230V, 50Hz
D2
D4
D1
D3
FR1 0.12 1/4W
FR3 0.12 1/4W
EK, EDG ONLY
D18
D6
D8
D10
D12
D17
D5
D7
FR2 0.12 1/4W
FR5 15.0 1/4W
D9
D11
C1
2200
/25
GXB
R1 R2
4.3K 4.3K
C11
0.01 (N)
14.2V
20.4V
13.6V
TR1
2SD1856
D19
1SS131
D13
HZS15-2
C6
47
/16
TWSS
FR4
68 1/4W
21.0V
20.9V
R9
24K
TR6
2SB1425
20.3V
C3
2200
/35
GXB
R10
5.1K
0V
C13
0.01 (N)
23.0V
11.7V
12.4V
TR3
2SD2394 E, F
C8
47
/16
TWSS
*D22
HZS11A3: EK
EDG
*D22
HZS12B3: EOH, EOG,
EO
R11
75K
0.6V
TR7
2SC3330
10.5V
5.3V
C2
4700
/16
GXB
C12
0.01 (N)
5.9V
TR2
2SD2394 E, F
C7
47
/10
TWSS
D23 HZS6B3
53.0V
36.5V
C4
47/100
LLA
37.0V
TR4
2SD2395 E, F
C9
1/50: EXCEPT
100/50: EOH, EK ONLY
TWSS
R3 R4 R5
15K 15K 15K
D20
1SS131
D14
HZS36-3
-53.0V
-35.1V
C5
47/100
LLA
-35.7V
TR5
2SB1565 E, F
C10
10/50
TWSS
R6 R7 R8
15K 15K 15K
D21
1SS131
D15
HZS36-1
GND 1
OPE5V 2
IDL5V 3
GND 4
OPE9/12V 5
IDL9/12V 6
MOTOR13V 7
UNR 8
+37V 9
-35V 10
AC4V 11
AC4V 12
P1
TO MAIN (A) PCB 3/3 WF201
WF1
4 3 2 1
4 3 2 1
EO, EOG, EOH, ONLY
D24
DBA20B
POWER SUPPLY PCB V1164B5120 (EDG, EK)
POWER SUPPLY PCB V1164B508A (EO, EOG, EOH)
▨ : B (POWER SUPPLY) LINE
DIODE PCB V1164B508B

ALL R WITHOUT INDICATION ARE 1/6W.
ALL FR WITHOUT INDICATION ARE 1/4W.

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

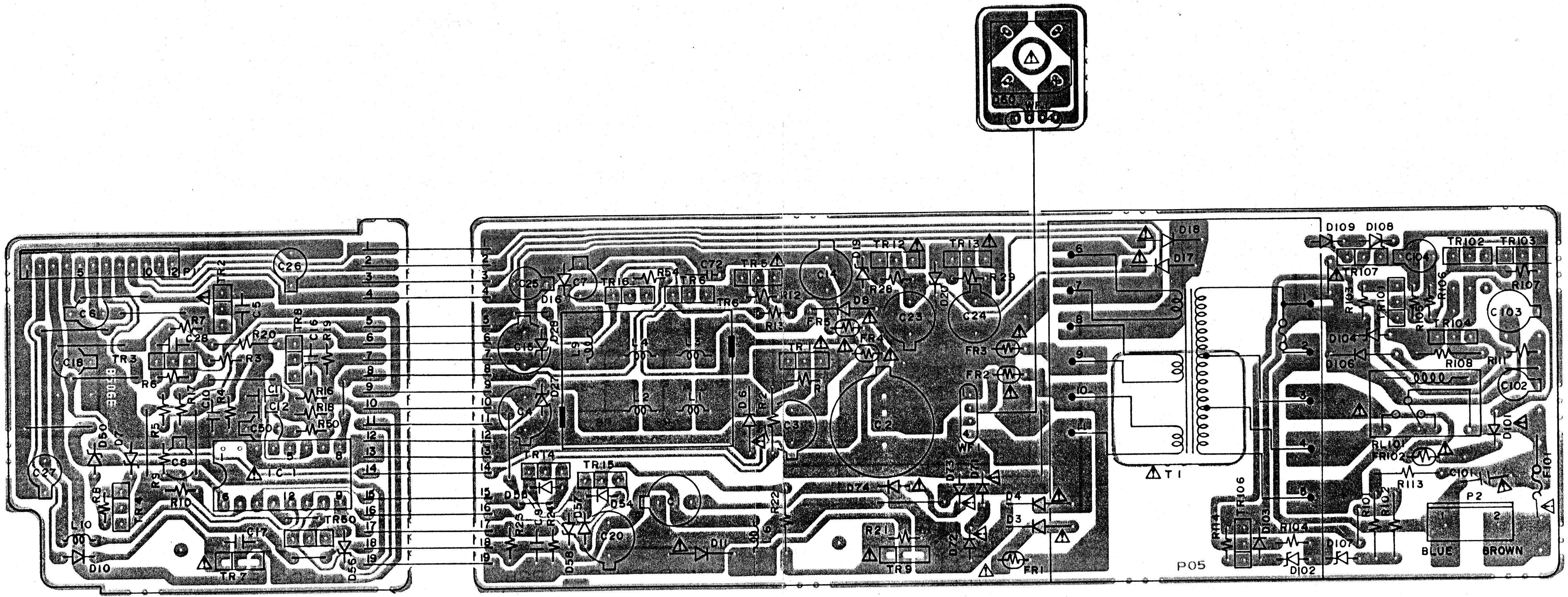
AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

INDICATED VOLTAGES WERE MEASURED DURING E-E (STOP) MODE
(WITH EOH MODEL)

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV

VS-G20EDG/EK/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK
POWER SUPPLY & DIODE
SCHEMATIC DIAGRAM
No.19-2 V116402M
A2

DIODE PCB
V1130B506C(J4)



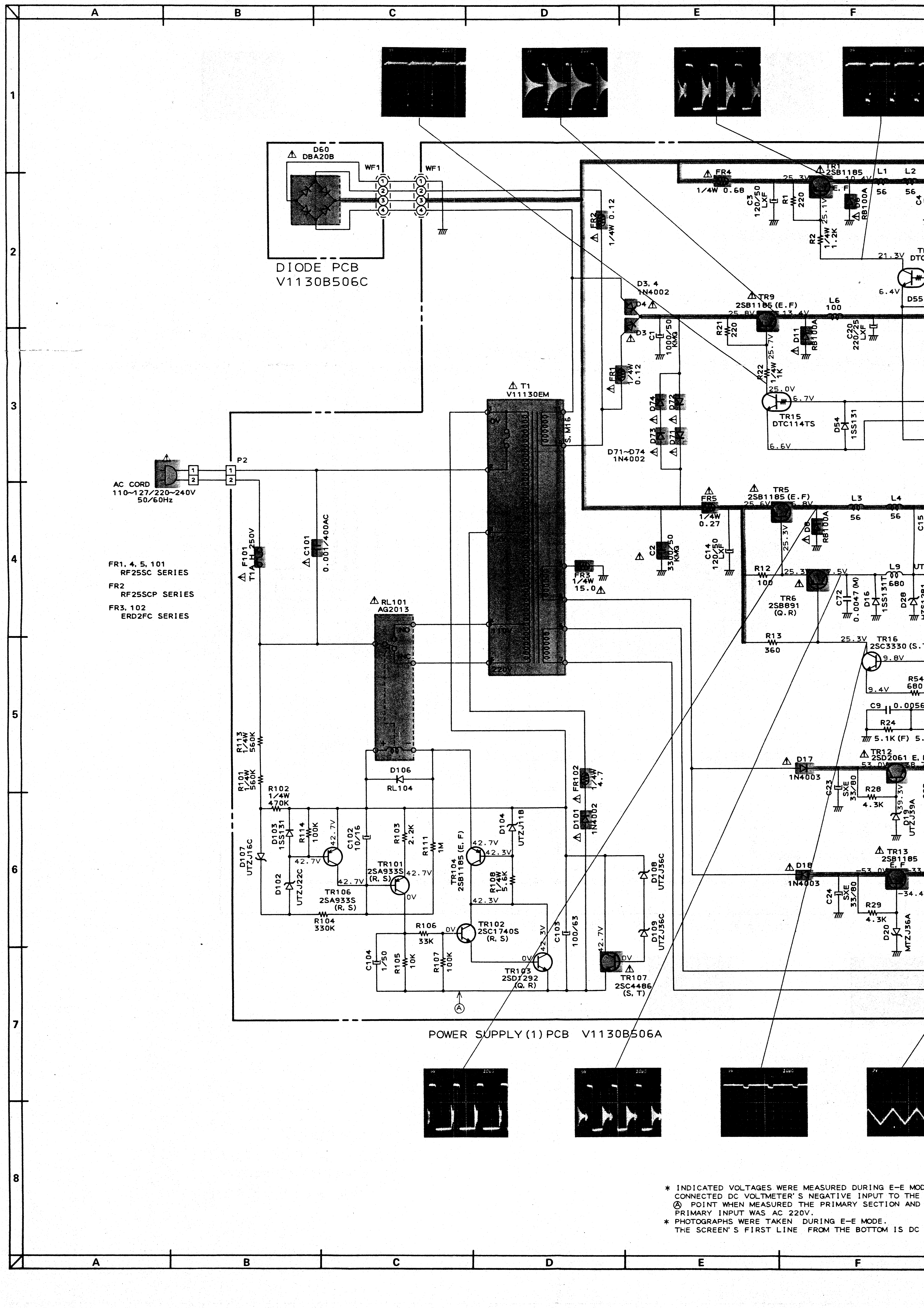
D18
D17
D109
D108
TR102
TR103
TR107
C104
R107
C103
TR12
TR13
TR5
C14
C19
R28
R29
C23
C24
D20
D8
R5
FR4
FR3
FR2
TR7
R1
C2
C3
C4
C5
C7
C15
C25
D16
TR16
R54
TR6
C72
L1
L2
L3
L4
D6
D29
D27
TR14
TR15
D52
D53
D54
D55
D58
C20
R25
R24
D11
R22
D74
D73
D72
D71
D4
D3
R2
TR9
FR1
WF
T1
D104
D106
R108
R111
C102
D101
RL101
FR102
R113
C101
F101
R106
R104
R103
R105
D102
D107
D103
R101
R102
P2
BLUE
BROWN
P05
C26
C6
C18
C27
C28
C29
C16
C50
C8
C17
TR2
TR3
TR7
TR8
TR50
R6
R7
R20
R19
R16
R18
R50
R17
R5
R4
R9
R8
R10
D50
D7
D10
D56
L10
IC1
P1

POWER SUPPLY (2) PCB
V1130B506B(J4)

POWER SUPPLY (1) PCB V1130B506A(J4)

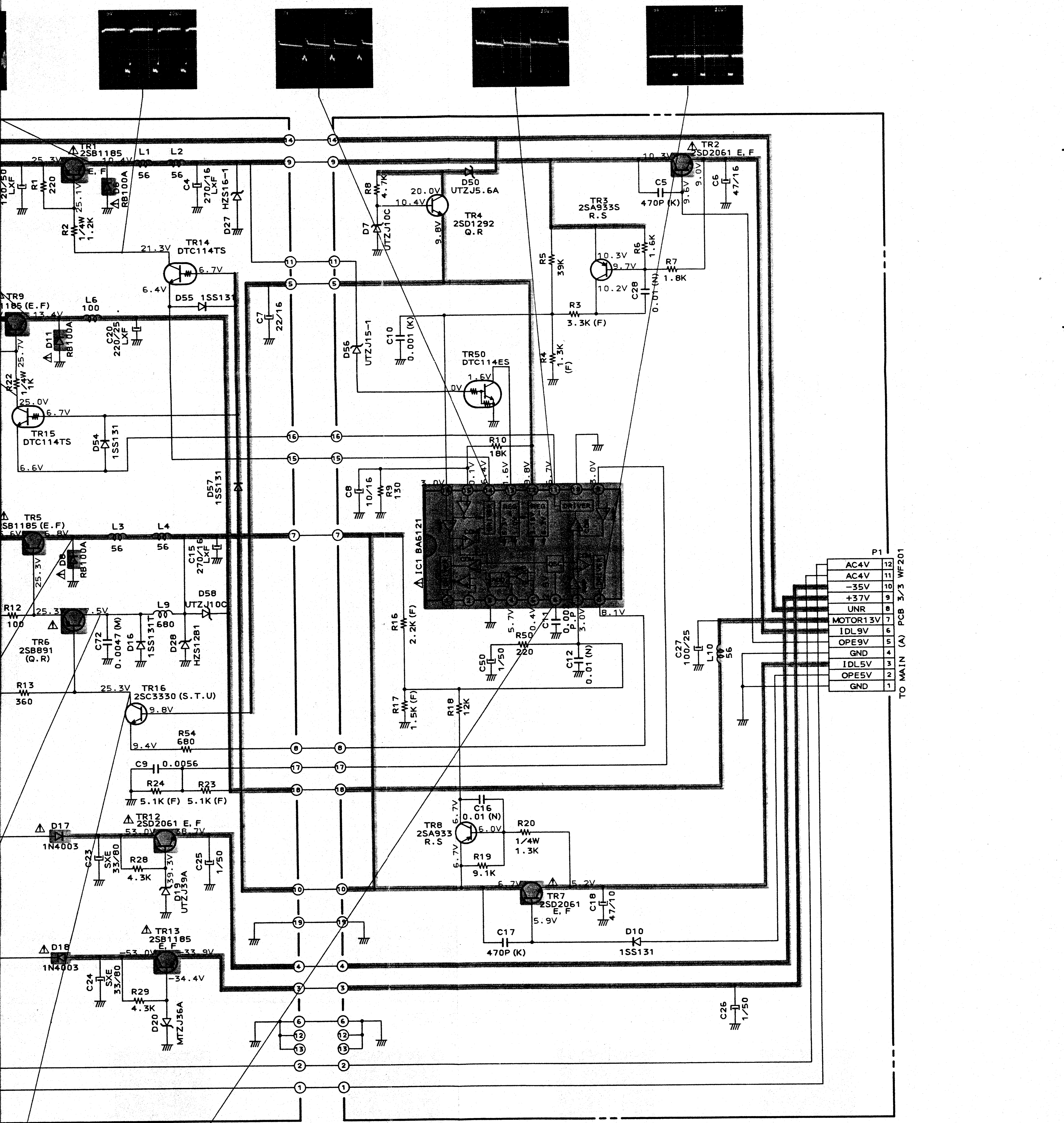
WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

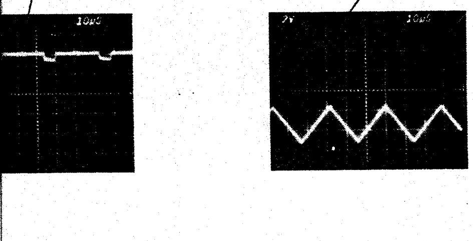
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT


A
B
C
D
E
F
1
2
3
4
5
6
7
8
D60
DBA20B
WF1
DIODE PCB
V1130B506C
AC CORD
110~127/220~240V
50/60Hz
P2
F101
T1A H 250V
C101
0.001/400AC
FR1, 4, 5, 101
RF25SC SERIES
FR2
RF25SCP SERIES
FR3, 102
ERD2FC SERIES
T1
V11130EM
S, M16
220V
FR3
1/4W
15.0
RL101
AG2013
D106
RL104
R113
1/4W
560K
R101
1/4W
560K
R102
1/4W
470K
D103
1SS131
R114
100K
D107
UTZJ16C
D102
UTZJ22C
42.7V
C102
10/16
TR101
2SA933S
(R, S)
TR106
2SA933S
(R, S)
R104
330K
R103
2.2K
R111
1M
TR104
2SB1185 (E, F)
D104
UTZJ11B
42.3V
R108
1/4W
5.6K
R106
33K
0V
TR102
2SC1740S
(R, S)
TR103
2SD1292
(Q, R)
C104
1/50
R105
10K
R107
100K
C103
100/63
FR102
1/4W
4.7
D101
1N4002
D108
UTZJ36C
D109
UTZJ36C
TR107
2SC4486
(S, T)
POWER SUPPLY (1) PCB V1130B506A
FR2
1/4W 0.12
FR4
1/4W 0.68
TR1
2SB1185
E, F
25.3V
10.4V
25.1V
C3
120/50
LXF
R1
220
R2
1/4W
1.2K
RB100A
L1
56
L2
56
21.3V
6.4V
D55
D3, 4
1N4002
D4
D3
C1
1000/50
KMG
FR1
1/4W
0.12
TR9
2SB1185 (E.F)
25.8V
13.4V
R21
220
D11
RB100A
L6
100
C20
220/25
LXF
R22
1/4W
1K
25.7V
25.0V
6.7V
TR15
DTC114TS
D54
1SS131
6.6V
D74
D72
D73
D71
D71~D74
1N4002
FR5
1/4W
0.27
TR5
2SB1185 (E.F)
25.6V
6.8V
D8
RB100A
L3
56
L4
56
C15
C2
3300/50
KMG
C14
120/50
LXF
R12
100
25.3V
7.5V
TR6
2SB891
(Q.R)
C72
0.0047 (M)
D16
1SS131T
L9
680
D28
R13
360
25.3V
TR16
2SC3330 (S.
9.8V
9.4V
R54
680
C9
0.0056
R24
5.1K (F)
D17
1N4003
TR12
2SD2061 E,
53.0V
C23
SXE
33/80
R28
4.3K
39.3V
D19
UTZJ39A
TR13
2SB1185
E, F
D18
1N4003
-53.0V
-34.4
C24
SXE
33/80
R29
4.3K
D20
MTZJ36A
A

* INDICATED VOLTAGES WERE MEASURED DURING E–E MOD
CONNECTED DC VOLTMETER' S NEGATIVE INPUT TO THE
Ⓐ POINT WHEN MEASURED THE PRIMARY SECTION AND
PRIMARY INPUT WAS AC 220V.

* PHOTOGRAPHS WERE TAKEN DURING E–E MODE.
THE SCREEN' S FIRST LINE FROM THE BOTTOM IS DC


TR1 2SB1185 E, F
25.3V
10.4V
L1 56
L2 56
R1 220
R2 1/4W 1.2K
25.1V
RB100A
C4 270/16 LXF
HZS16-1
D27
120/50 LXF
TR14 DTC114TS
21.3V
6.7V
6.4V
D55 1SS131
TR9 1185 (E.F)
13.4V
L6 100
D11 RB100A
C20 220/25 LXF
R22 1/4W 1K
25.7V
25.0V
6.7V
TR15 DTC114TS
D54 1SS131
6.6V
D57 1SS131
C7 22/16
TR5 SB1185 (E.F)
5.6V
5.8V
L3 56
L4 56
D8 RB100A
25.3V
C15 270/16 LXF
D58 UTZJ10C
R12 100
25.3V
7.5V
L9 680
TR6 2SB891 (Q.R)
C72 0.0047 (M)
D16 1SS131T
D28 HZS12B1
R13 360
25.3V
TR16 2SC3330 (S.T.U)
9.8V
9.4V
R54 680
C9 0.0056
R24 5.1K (F)
R23 5.1K (F)
D17 1N4003
TR12 2SD2061 E, F
53.0V
38.7V
C23 SXE 33/80
R28 4.3K
39.3V
D19 UTZJ39A
C25 1/50
TR13 2SB1185 E, F
D18 1N4003
-53.0V
-33.9V
-34.4V
C24 SXE 33/80
R29 4.3K
D20 MTZJ36A
R8 4.7K
D7 UTZJ10C
D50 UTZJ5.6A
20.0V
10.4V
TR4 2SD1292 Q.R
9.8V
D56 UTZJ15-1
C10 0.001 (K)
TR50 DTC114ES
1.6V
0V
R10 18K
C8 10/16
R9 130
IC1 BA6121
0.1V
5.4V
1.6V
9.8V
6.7V
3.0V
8.1V
5.7V
0.4V
0.00 P.P
3.0V
R16 2.2K (F)
R50 220
C50 1/50
C11
C12 0.01 (N)
R17 1.5K (F)
R18 12K
TR8 2SA933 R.S
6.7V
6.7V
C16 0.01 (N)
6.0V
R20 1/4W 1.3K
R19 9.1K
6.7V
TR7 2SD2061 E, F
5.2V
5.9V
C18 47/10
C17 470P (K)
D10 1SS131
TR2 2SD2061 E, F
10.3V
9.6V
9.0V
C5 470P (K)
C6 47/16
TR3 2SA933S R.S
R5 39K
R6 1.6K
10.3V
9.7V
10.2V
R7 1.8K
C28 0.01 (N)
R3 3.3K (F)
R4 1.3K (F)
C27 100/25
L10 56
C26 1/50
P1
12 AC4V
11 AC4V
10 -35V
9 +37V
8 UNR
7 MOTOR13V
6 IDL9V
5 OPE9V
4 GND
3 IDL5V
2 OPE5V
1 GND
TO MAIN (A) PCB 3/3 WF201
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
F
G
H
I
J
K



POWER SUPPLY (2) PCB V1130B506B

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

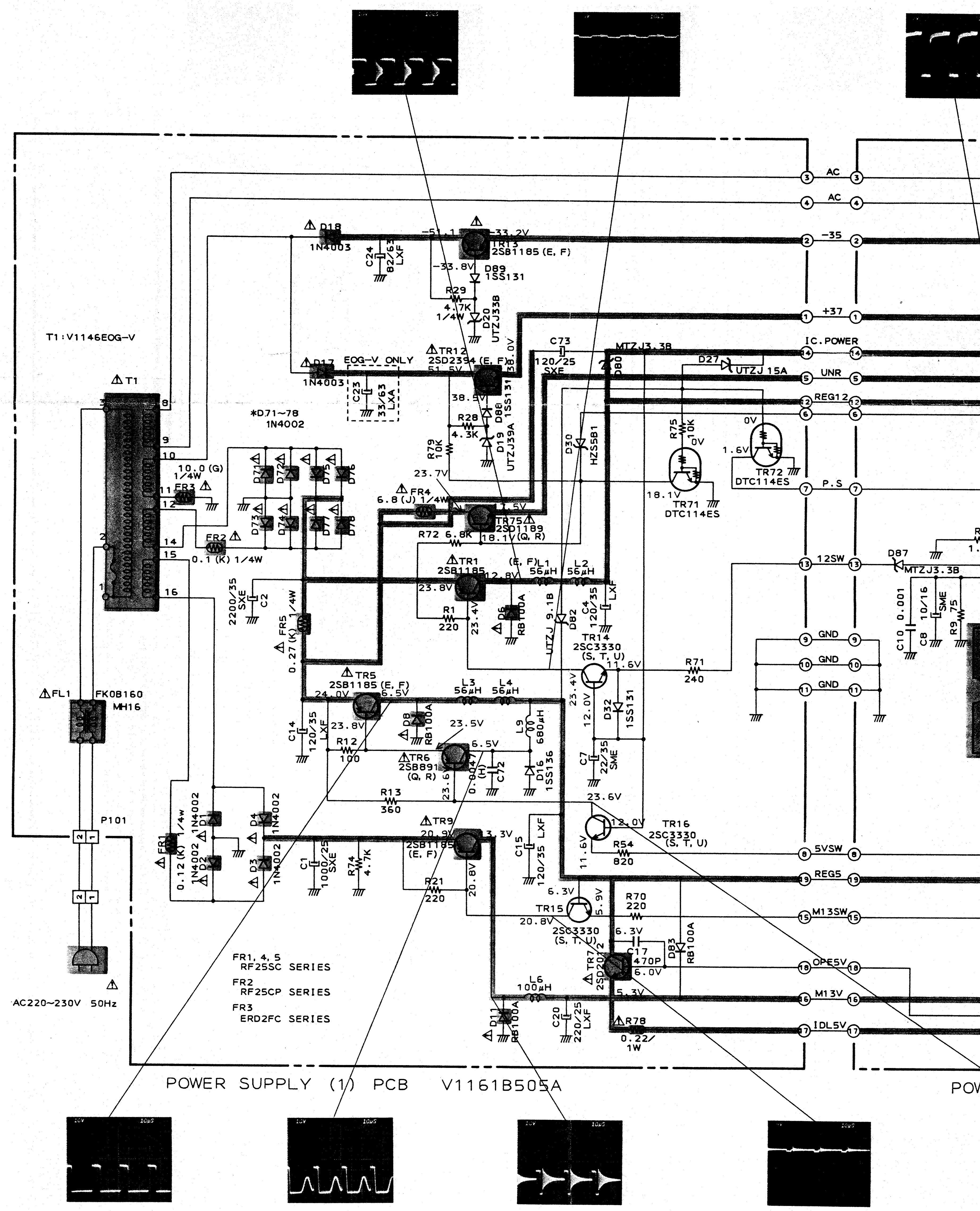
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50 WV (M)
ALL INDUCTORS IN µH (K)

▬ B (POWER SUPPLY LINE)

TAGES WERE MEASURED DURING E-E MODE.
OLTMETER'S NEGATIVE INPUT TO THE
MEASURED THE PRIMARY SECTION AND
WAS AC 220V.
RE TAKEN DURING E-E MODE.
IRST LINE FROM THE BOTTOM IS DC 0V.

VS-G20EM
POWER SUPPLY (1), (2) & DIODE SCHEMATIC DIAGRAM

No.19-3 V116403M
A1


T1:V1146EOG-V
T1
FL1 FK0B160 MH16
P101
AC220~230V 50Hz
D18 1N4003
C24 82/63 LXF
TR13 2SB1185(E, F)
-33.2V
-33.8V
D89 1SS131
R29 4.7K 1/4W
D20 UTZJ33B
D17 1N4003
EOG-V ONLY
C23 33/63 LXA
TR12 2SD2394(E, F)
51.5V
38.0V
38.5V
R28 4.3K
D88 1SS131
D19 UTZJ39A
R79 10K
23.7V
*D71~78 1N4002
10.0(G) 1/4W
FR3
FR2
0.1(K) 1/4W
FR4 6.8(J) 1/4W
R72 6.8K
TR75 2SD1189(Q, R)
18.1V
C73 120/25 SXE
MTZJ3.3B
D80
D30 HZS5B1
D27 UTZJ 15A
R75 10K
0V
TR71 DTC114ES
TR72 DTC114ES
1.6V
TR1 2SB1185
23.8V
R1 220
23.4V
D6 RB100A
(E, F) L1 56µH
L2 56µH
C4 120/35 LXF
D82 UTZJ 9.1B
TR14 2SC3330 (S, T, U)
11.6V
R71 240
C2 2200/35 SXE
FR5 0.27(K) 1/4W
TR5 2SB1185(E, F)
24.0V
6.5V
L3 56µH
L4 56µH
C14 120/35 LXF
R12 100
D8 RB100A
23.5V
TR6 2SB891 (Q, R)
0.0047 (H)
C72
L9 680µH
D16 1SS136
C7 22/35 SME
12.0V
D32 1SS131
R13 360
23.6V
TR16 2SC3330 (S, T, U)
12.0V
R54 820
11.6V
FR1 0.12(K) 1/4W
D1 D2 D3 D4 1N4002
C1 1000/25 SXE
R74 4.7K
TR9 2SB1185 (E, F)
20.9V
13.3V
C15 120/35 LXF
R21 220
20.8V
6.3V
TR15 2SC3330 (S, T, U)
5.9V
R70 220
C17 470P
6.3V
6.0V
5.3V
TR7 2SD2012
D83 RB100A
L6 100µH
D11 RB100A
C20 220/25 LXF
R78 0.22/1W
FR1, 4, 5 RF25SC SERIES
FR2 RF25CP SERIES
FR3 ERD2FC SERIES
③ AC ③
④ AC ④
② -35 ②
① +37 ①
⑭ IC.POWER ⑭
⑤ UNR ⑤
⑫ REG12 ⑫
⑥ ⑥
⑦ P.S ⑦
⑬ 12SW ⑬
D87 MTZJ3.3B
C10 0.001
C8 10/16 SME
R9 75
⑨ GND ⑨
⑩ GND ⑩
⑪ GND ⑪
⑧ 5VSW ⑧
⑲ REG5 ⑲
⑮ M13SW ⑮
⑱ OPE5V ⑱
⑯ M13V ⑯
⑰ IDL5V ⑰
POWER SUPPLY (1) PCB V1161B505A
POW

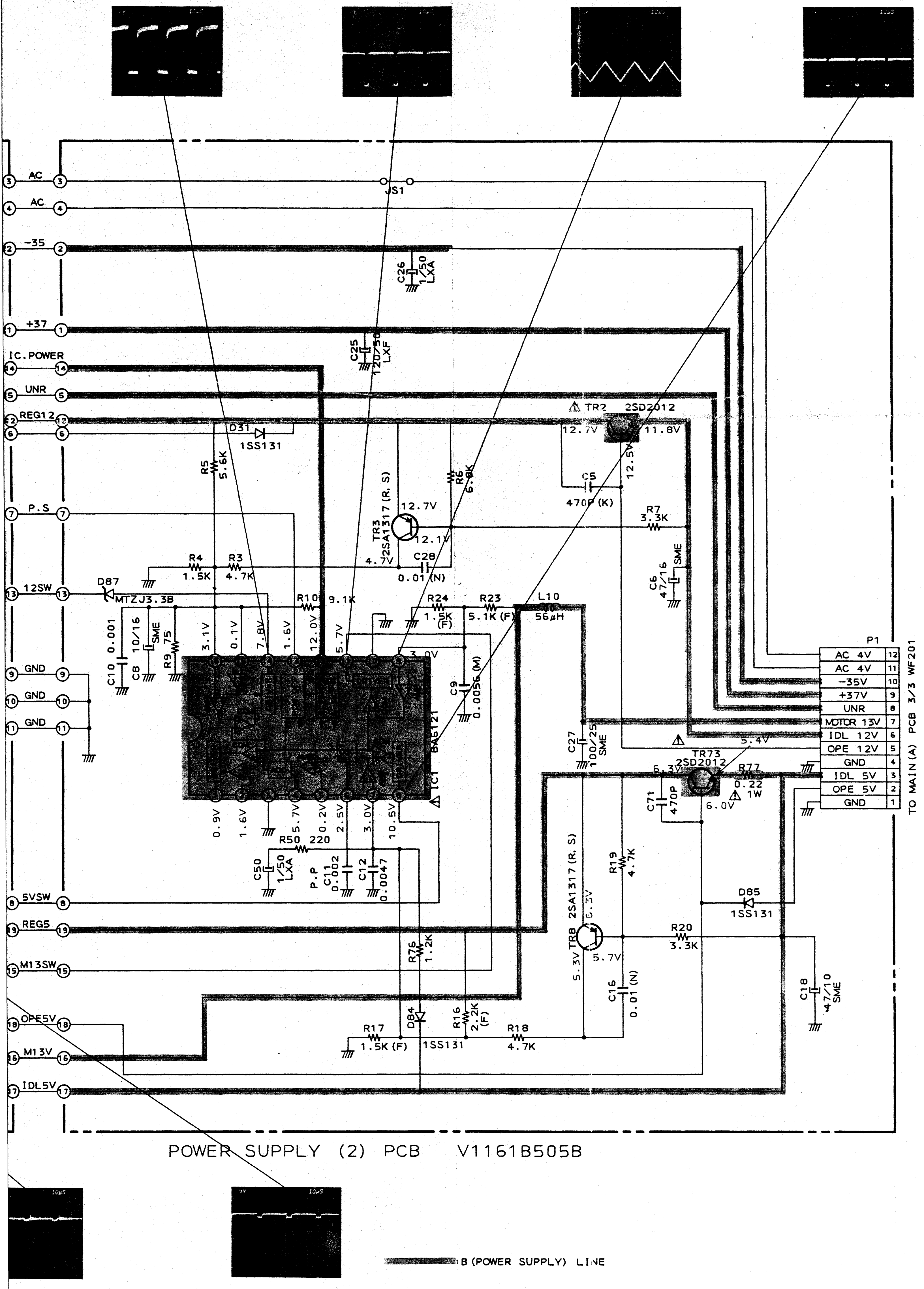
* INDICATED VOLTAGE WERE MEASURED DU
EE MODE.

* PHOTOGRAPHS WERE TAKEN DURING E-E
THE SCREEN'S FIRST LINE FROM THE
IS DC 0V.

WARNING: ⚠ AND ▆ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▆ ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

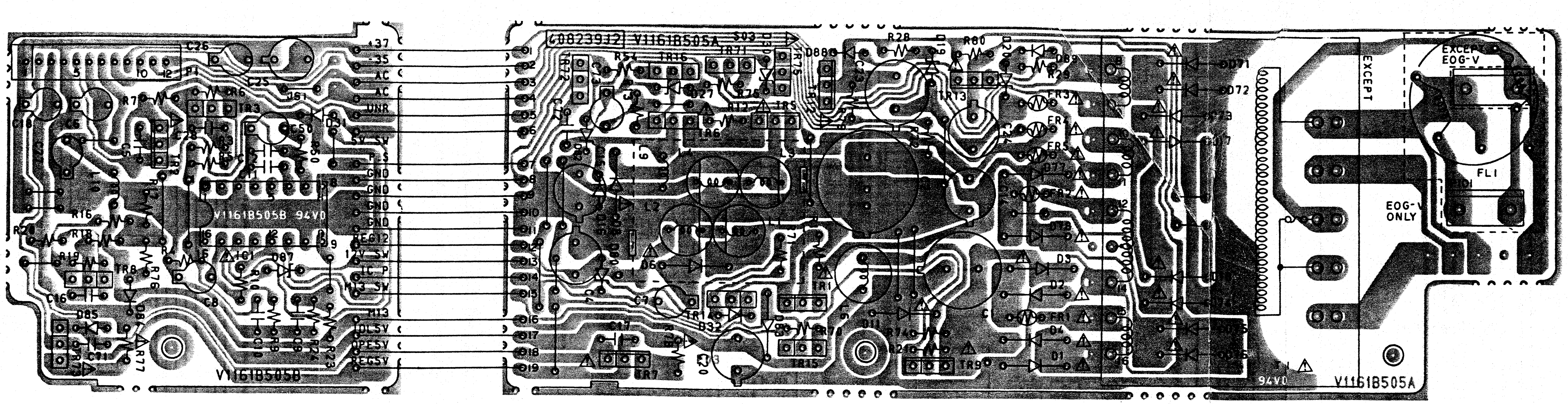
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50 WV (M)


AC
AC
-35
+37
IC. POWER
UNR
REG12
P.S
12SW
GND
GND
GND
5VSW
REG5
M13SW
OPE5V
M13V
IDL5V
JS1
C26 1/50 LXA
C25 120/50 LXF
TR2 2SD2012
12.7V
11.8V
12.5V
C5 470P (K)
R7 3.3K
C6 47/16 SME
D31 1SS131
R5 5.6K
R6 6.8K
TR3 2SA1317 (R, S)
12.7V
12.1V
4.7V
C28 0.01 (N)
R4 1.5K
R3 4.7K
D87 MTZJ3.3B
R10 9.1K
R24 1.5K (F)
R23 5.1K (F)
L10 56μH
C10 0.001
C8 10/16 SME
R9 75
3.1V
0.1V
7.8V
1.6V
12.0V
5.7V
3.0V
C9 0.0056 (M)
IC1 BA6121
0.9V
1.6V
5.7V
0.2V
2.5V
3.0V
10.5V
R50 220
C50 1/50 LXA
P.P C11 0.002
C12 0.0047
C27 100/25 SME
TR73 2SD2012
5.4V
6.3V
6.0V
R77 0.22 1W
C71 470P
TR8 2SA1317 (R, S)
6.3V
5.7V
5.3V
R19 4.7K
D85 1SS131
R20 3.3K
C16 0.01 (N)
C18 47/10 SME
R76 1.2K
D84 1SS131
R16 2.2K (F)
R17 1.5K (F)
R18 4.7K
P1
AC 4V 12
AC 4V 11
-35V 10
+37V 9
UNR 8
MOTOR 13V 7
IDL 12V 6
OPE 12V 5
GND 4
IDL 5V 3
OPE 5V 2
GND 1
TO MAIN (A) PCB 3/3 WF201
POWER SUPPLY (2) PCB V1161B505B
: B (POWER SUPPLY) LINE

ED VOLTAGE WERE MEASURED DURING

APHS WERE TAKEN DURING E-E MODE.
EEN 'S FIRST LINE FROM THE BOTTOM
V.

VS-G25EOG-V
POWER SUPPLY (1), (2)
SCHEMATIC DIAGRAM
No.19-4 V116404M
A2



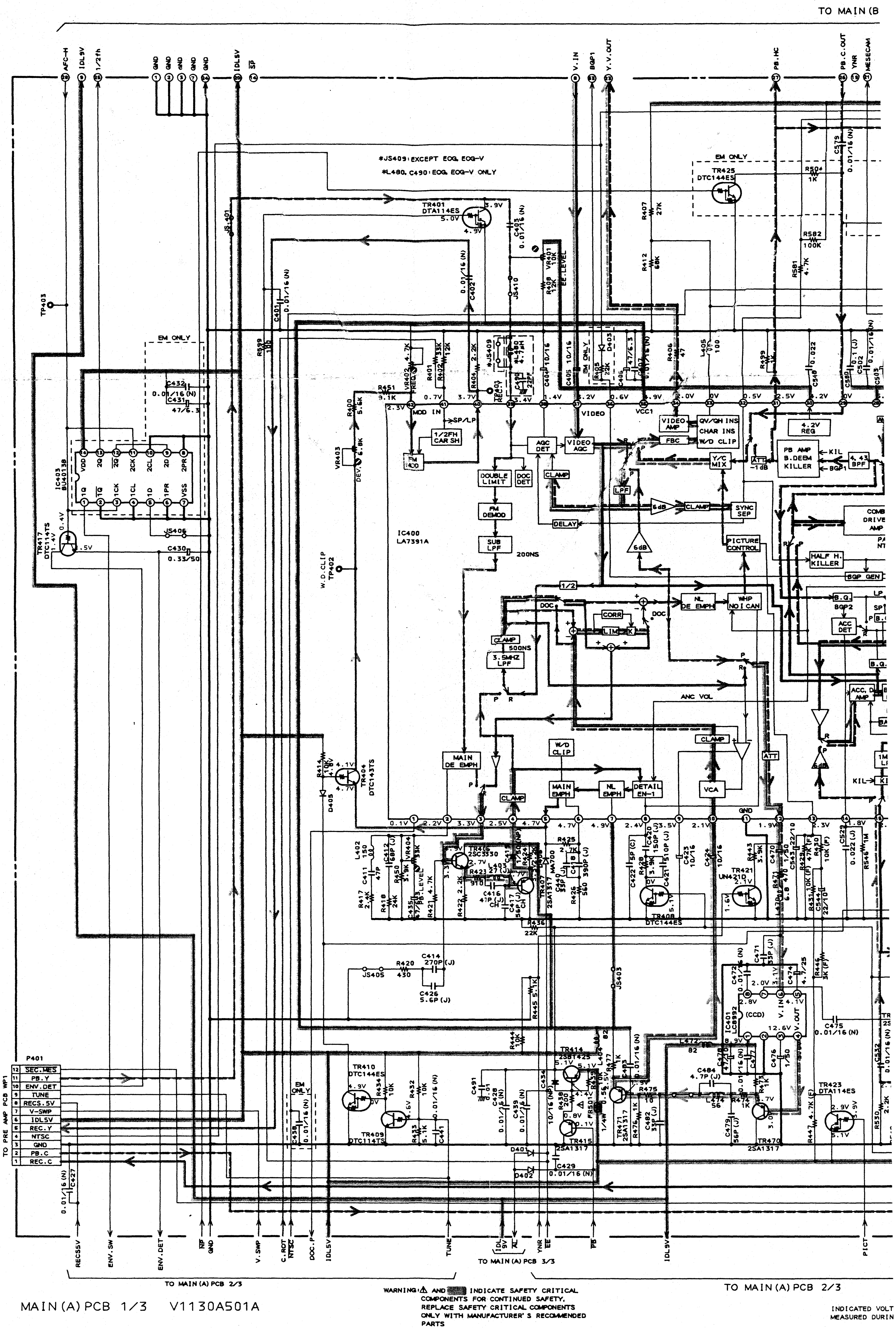
+37
-35
AC
AC
UNR
5V SW
P-S
GND
GND
GND
GND
REG12
12V SW
IC P
M13 SW
M13
DL5V
OPE5V
REG5V
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
V1161B505B 94V0
V1161B505B
V1161B505A
V1161B505A
94V0
EXCEPT
EXCEPT EOG-V
EOG-V ONLY
FL1
C08239J2

POWER SUPPLY(2)PCB V1161B505B(J3)

POWER SUPPLY(1)PCB V1161B505A(J3)

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

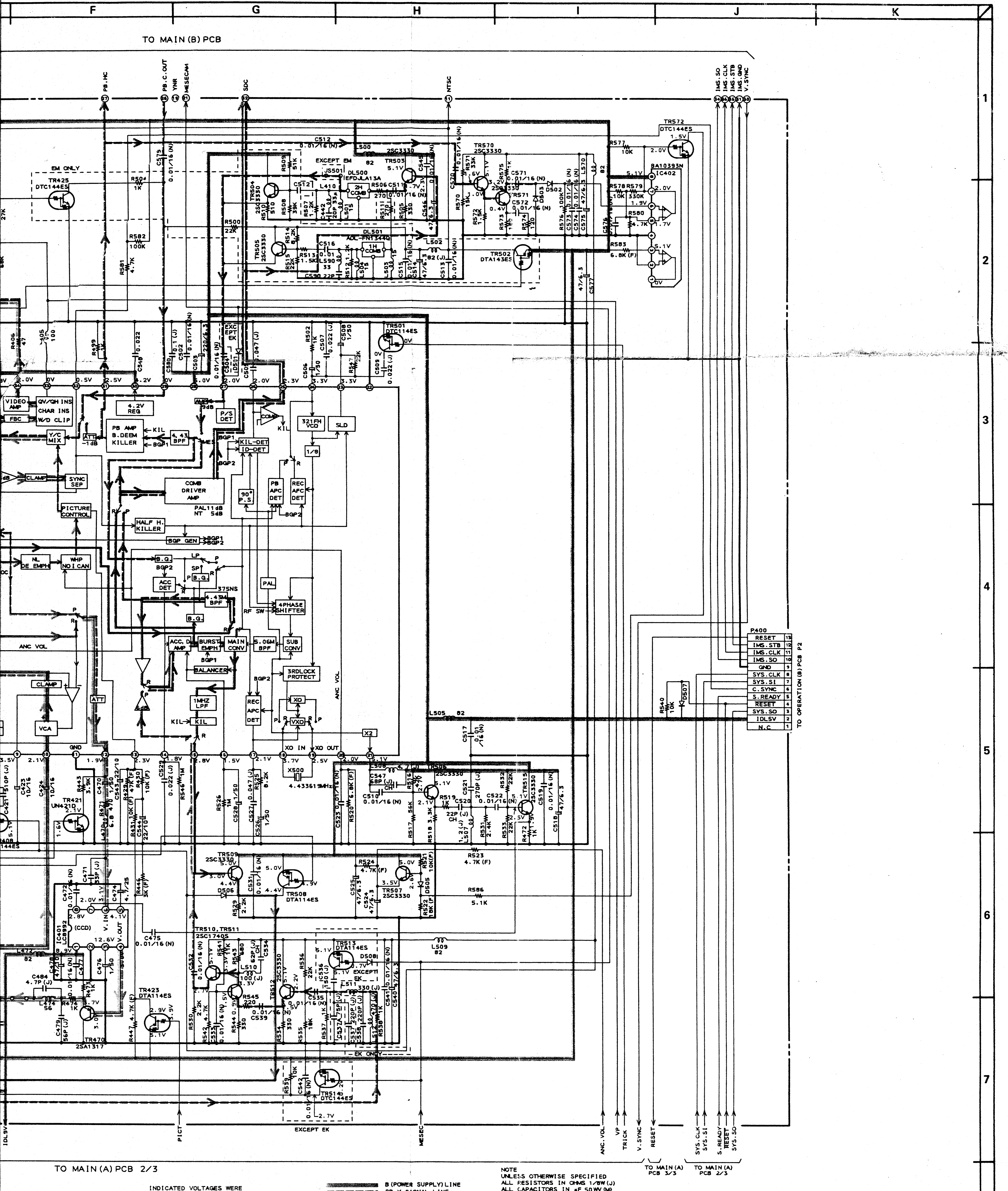

TO MAIN (B
AFC-H
IDL9V
1/2fh
GND
IDL5V
SP
V.IN
BGP1
Y.V.OUT
PB.HC
PB.C.OUT
YNR
MESECAM
*JS409: EXCEPT EOG, EOG-V
*L480, C490: EOG, EOG-V ONLY
TR401 DTA114ES
TR425 DTC144ES
EM ONLY
TP403
IC403 BU4013B
TR417 DTC114TS
IC400 LA7391A
W.D.CLIP TP402
VIDEO AGC
AGC DET
DOUBLE LIMIT
DOC DET
FM DEMOD
SUB LPF
200NS
CLAMP
DELAY
LPF
6dB
SYNC SEP
PICTURE CONTROL
Y/C MIX
PB AMP B.DEEM KILLER
4.2V REG
HALF H. KILLER
BGP GEN
1/2
NL DE EMPH
WHP NOI CAN
CORR
LIM
DOC
500NS
3.5MHZ LPF
ANC VOL
W/D CLIP
MAIN DE EMPH
MAIN EMPH
NL EMPH
DETAIL EN-1
VCA
ATT
ACC DET
ACC AMP
TR404 DTC143TS
TR416 2SC3330
TR407 2SA1317
TR421 UN4210
TR408 DTC144ES
IC401 LC8992 (CCD)
TR410 DTC144ES
TR409 DTC114TS
TR414 2SB1425
TR415 2SA1317
TR471 2SA1317
TR470 2SA1317
TR423 DTA114ES
P401
TO PRE AMP PCB WP1
SEC.MES
PB.Y
ENV.DET
TUNE
RECS.5V
V-SWP
IDL5V
REC.Y
NTSC
GND
PB.C
REC.C
RECS5V
ENV.SW
ENV.DET
NF
GND
V.SWP
C.ROT
NTSC
DOC.P
IDL5V
TUNE
IDL9V
AL
YNR
EE
PB
IDL9V
PICT
TO MAIN (A) PCB 3/3
TO MAIN (A) PCB 2/3
TO MAIN (A) PCB 2/3

MAIN(A) PCB 1/3 V1130A501A

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

INDICATED VOLT
MEASURED DURIN



F
G
H
I
J
K
1
2
3
4
5
6
7
8
TO MAIN (B) PCB
PB.HC
PB.C.OUT
YNR
MESECAM
SDC
NTSC
IMS.SO
IMS.CLK
IMS.STB
IMS.GND
V.SYNC
EM ONLY
TR425
DTC144ES
EXCEPT EM
TR503
TR504
2SC3330
TR505
DL500
DL501
TR570
2SC3330
TR571
TR572
DTC144ES
IC402
BA10393N
TR502
DTA143ES
TR501
DTC114ES
VIDEO AMP
QV/QH INS
CHAR INS
W/D CLIP
FBC
Y/C MIX
ATT -1dB
4.2V REG
PB AMP
B.DEEM
KILLER
4.43 BPF
P/S DET
COMP
321FH VCO
SLD
KIL-DET
ID-DET
1/8
CLAMP
SYNC SEP
COMB DRIVER AMP
PAL 11dB
NT 5dB
90° P.S
PB APC DET
REC AFC DET
PICTURE CONTROL
HALF H. KILLER
BGP GEN
NL DE EMPH
WHP NOICAN
B.G.
ACC DET
4.43M BPF
375NS
PAL
4PHASE SHIFTER
RF SW
ANC VOL
ACC AMP
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BALANCER
3RDLOCK PROTECT
CLAMP
ATT
VCA
1MHZ LPF
KIL
REC APC DET
XO
VXO
X2
XO IN
XO OUT
X500
4.433619MHz
TR421
UN421D
TR506
2SC3330
TR515
2SC3330
TR509
2SC3330
TR508
DTA114ES
TR507
2SC3330
IC401
LC8992
(CCD)
TR423
DTA114ES
TR470
2SA1317
TR510, TR511
2SC1740S
TR512
2SC3330
TR513
DTA114ES
EXCEPT EK
EK ONLY
TR514
DTC144ES
P400
RESET 13
IMS.STB 12
IMS.CLK 11
IMS.SO 10
GND 9
SYS.CLK 8
SYS.SI 7
C.SYNC 6
S.READY 5
RESET 4
SYS.SO 3
IDL5V 2
N.C 1
TO OPERATION (B) PCB P2
IDL9V
PICT
MESEC
ANC.VOL
VP
TRICK
V.SYNC
RESET
SYS.CLK
SYS.SI
S.READY
RESET
SYS.SO
TO MAIN (A) PCB 2/3
TO MAIN (A) PCB 3/3
TO MAIN (A) PCB 2/3

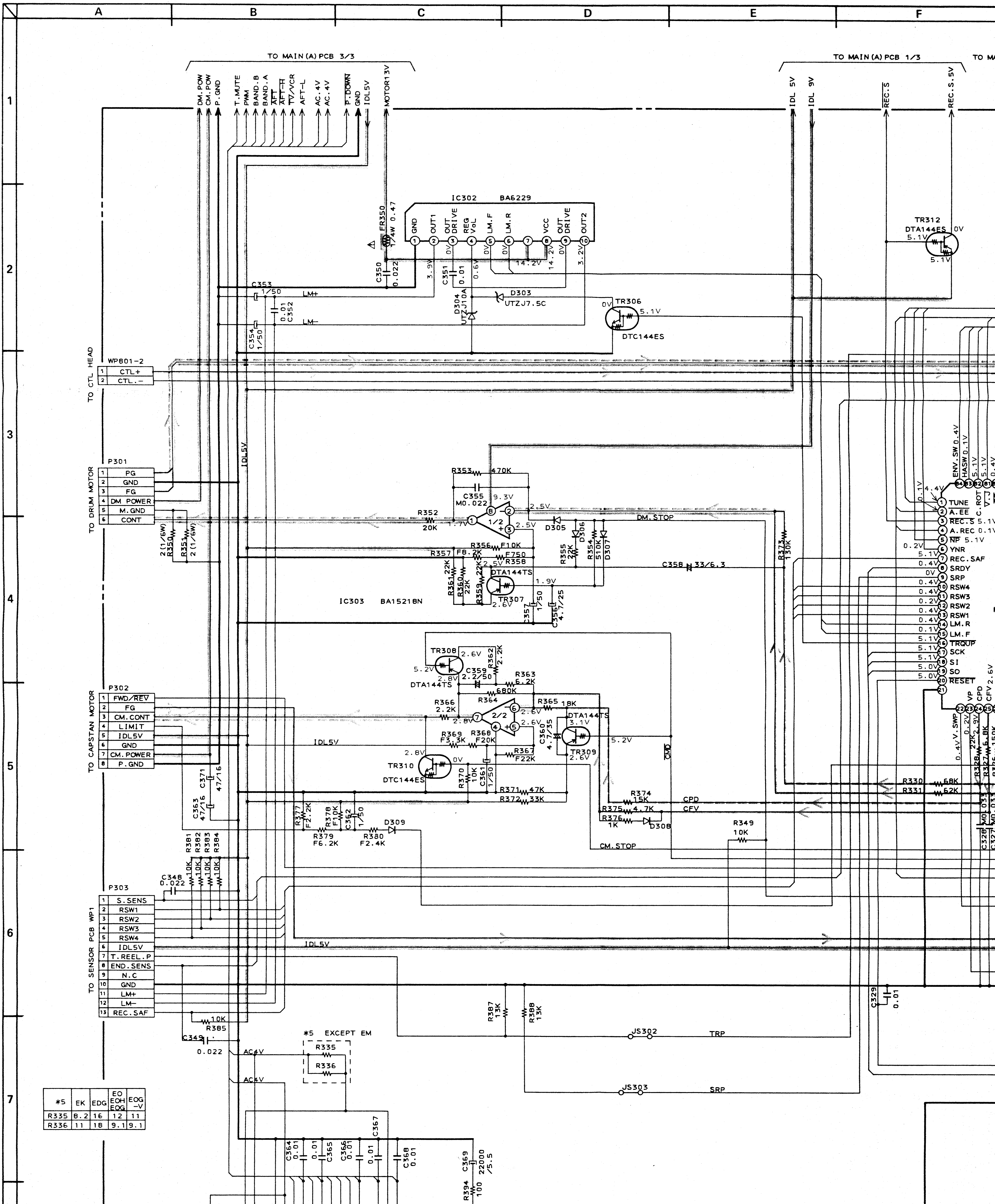
INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.

B (POWER SUPPLY) LINE
PB Y SIGNAL LINE
REC Y SIGNAL LINE
PB CHROMA SIGNAL LINE
REC CHROMA SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN µF 50WV (M)
ALL INDUCTORS IN µH (K)
ALL DIODES ARE 1SS131T

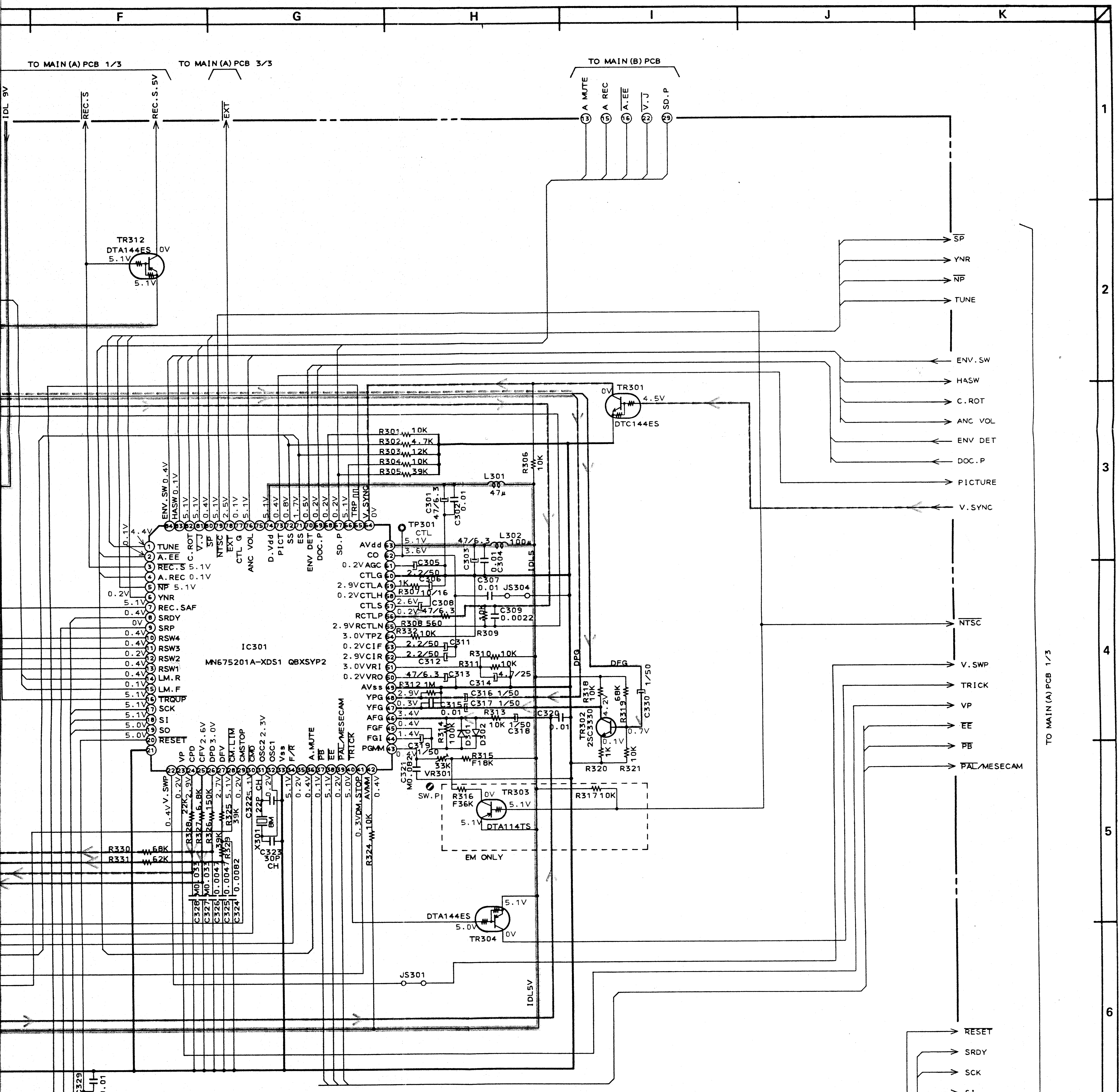
VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
MAIN (A) 1/3 (VIDEO BLK)
SCHEMATIC DIAGRAM

No.19-5 V116405M
A0


TO MAIN (A) PCB 3/3
DM.POW
CM.POW
P.GND
T.MUTE
PWM
BAND.B
BAND.A
AFT
AFT-H
TV/VCR
AFT-L
AC.4V
AC.4V
P.DOWN
GND
IDL5V
MOTOR13V
TO MAIN (A) PCB 1/3
IDL 5V
IDL 9V
REC.S
REC.S.5V
IC302 BA6229
GND
OUT1
OUT DRIVE
REG VoL
LM.F
LM.R
VCC
OUT DRIVE
OUT2
FR350 1/4W 0.47
C350 0.022
C351 0.01
C353 1/50
C352 0.01
C354 1/50
LM+
LM−
D304 UTZJ10A
D303 UTZJ7.5C
TR306 DTC144ES
TR312 DTA144ES
WP801-2
CTL+
CTL.−
TO CTL HEAD
P301
PG
GND
FG
DM POWER
M.GND
CONT
TO DRUM MOTOR
R350 2(1/6W)
R351 2(1/6W)
IDL5V
R353 470K
C355 M0.022
R352 20K
1/2
D305
D306
D307
DM.STOP
R356 F10K
R357 F8.2K
F750
R358
R355 22K
R354 510K
R361 22K
R360 22K
R359 22K
DTA144TS
TR307
C357 1/50
C356 4.7/25
C358 33/6.3
R373 130K
IC303 BA15218N
TR308
DTA144TS
C359 2.2/50
R362 2.2K
R363 6.2K
R364 680K
R365 18K
R366 2.2K
2/2
DTA144TS
TR309
C360 4.7/35
R369 F3.3K
R368 F20K
R367 F22K
TR310
DTC144ES
R370 10K
C361 1/50
R371 47K
R372 33K
R374 15K
R375 4.7K
R376 1K
D308
CPD
CFV
CM.STOP
R349 10K
P302
FWD/REV
FG
CM.CONT
LIMIT
IDL5V
GND
CM.POWER
P.GND
TO CAPSTAN MOTOR
C371 47/16
C363 47/16
R377 F2.2K
R378 F10K
C362 1/50
R379 F6.2K
R380 F2.4K
D309
R381 10K
R382 10K
R383 10K
R384 10K
C348 0.022
P303
S.SENS
RSW1
RSW2
RSW3
RSW4
IDL5V
T.REEL.P
END.SENS
N.C
GND
LM+
LM−
REC.SAF
TO SENSOR PCB WP1
R385 10K
C349 0.022
AC4V
*5 EXCEPT EM
R335
R336
R387 13K
R388 13K
JS302
TRP
JS303
SRP
C329 0.01
TUNE
A.EE
REC.S
A.REC
NP
YNR
REC.SAF
SRDY
SRP
RSW4
RSW3
RSW2
RSW1
LM.R
LM.F
TRQUP
SCK
SI
SO
RESET
ENV.SW
HASW
C.ROT
V.SWP
VP
CPD
CFV
R330 68K
R331 62K
C364 0.01
C365 0.01
C366 0.01
C367 0.01
C368 0.01
C369 22000 /5.5
R394 100
EM ONLY
WP301
TO SUB PCB P1
AC 4V IN
AC 4V IN
AC 4V OUT
P304
−35V
GND
AC4V
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP5V
T.MUTE
AC4V
BAND.C
TO OPERATION (B) PCB P3
−35V
BUP 5V
TO MAIN (A) PCB 3/3

*5	EK	EDG	EO EOH EOG	EOG −V
R335	8.2	16	12	11
R336	11	18	9.1	9.1

MAIN (A) PCB 2/3 V1130A501A


F
G
H
I
J
K
1
2
3
4
5
6
7
TO MAIN (A) PCB 1/3
TO MAIN (A) PCB 3/3
TO MAIN (B) PCB
IDL 9V
REC.S
REC.S.5V
EXT
A.MUTE
A.REC
A.EE
V.J
SD.P
TR312
DTA144ES
TR301
DTC144ES
TR302
2SC3330
TR303
DTA114TS
TR304
DTA144ES
IC301
MN675201A-XDS1 QBXSYP2
TP301
CTL
L301
L302
X301
VR301
JS301
JS304
SW.P
EM ONLY
IDL5V
DFG
TUNE
A.EE
REC.S
A.REC
NP
YNR
REC.SAF
SRDY
SRP
RSW4
RSW3
RSW2
RSW1
LM.R
LM.F
TRQUP
SCK
SI
SO
RESET
ENV.SW
HASW
C.ROT
V.J
SP
NTSC
EXT G
CTL G
ANC VOL
D.Vdd
PICT
SS
ES
ENV DET
DOC.P
SD.P
TRP
V.SYNC
AVdd
CO
AGC
CTLG
CTLA
CTLH
CTLS
RCTLP
RCTLN
TPZ
CIF
CIR
VRI
VRO
AVss
YPG
YFG
AFG
FGF
FGI
PGMM
V.SWP
VP
CPD
CFV
DPD
DFV
CM.LIM
CMSTOP
CMO
OSC2
OSC1
Vss
F/R
A.MUTE
PB
EE
PAL/MESECAM
TRICK
DM.STOP
AVMM
SP
YNR
NP
TUNE
ENV.SW
HASW
C.ROT
ANC VOL
ENV DET
DOC.P
PICTURE
V.SYNC
NTSC
V.SWP
TRICK
VP
EE
PB
PAL/MESECAM
RESET
SRDY
SCK
SI
SO
TO MAIN (A) PCB 1/3

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W
ALL CAPACITORS IN µF (P=PF) 50WV
ALL ELECTROLYTIC CAPACITORS IN µF/WV
ALL DIODES ARE 1SS131T

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.

B (POWER SUPPLY) LINE
CAPSTAN MOTOR SPEED CONTROL LINE
CAPSTAN MOTOR PHASE CONTROL LINE
DRUM MOTOR SPEED CONTROL LINE
DRUM MOTOR PHASE CONTROL LINE

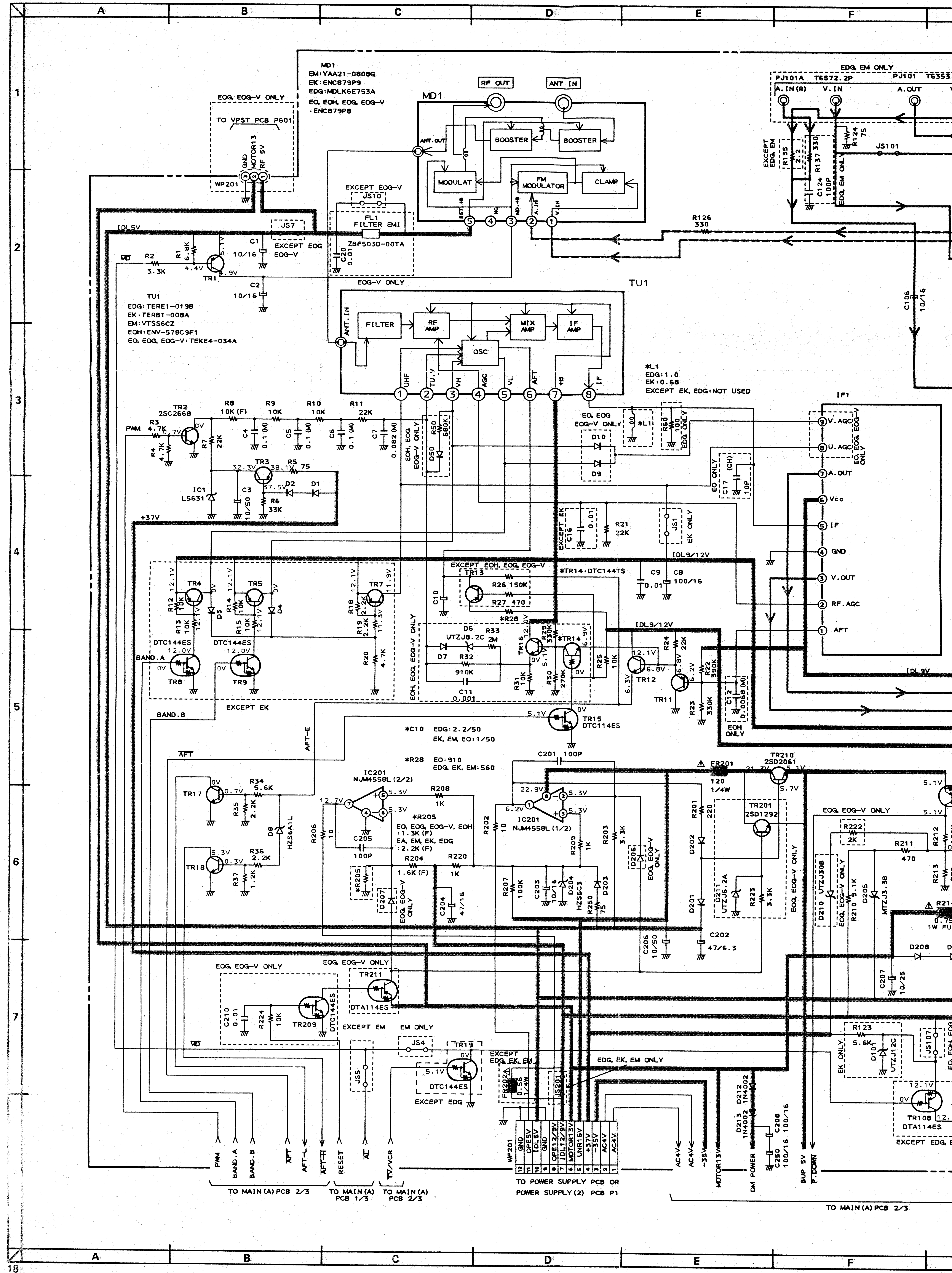
WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

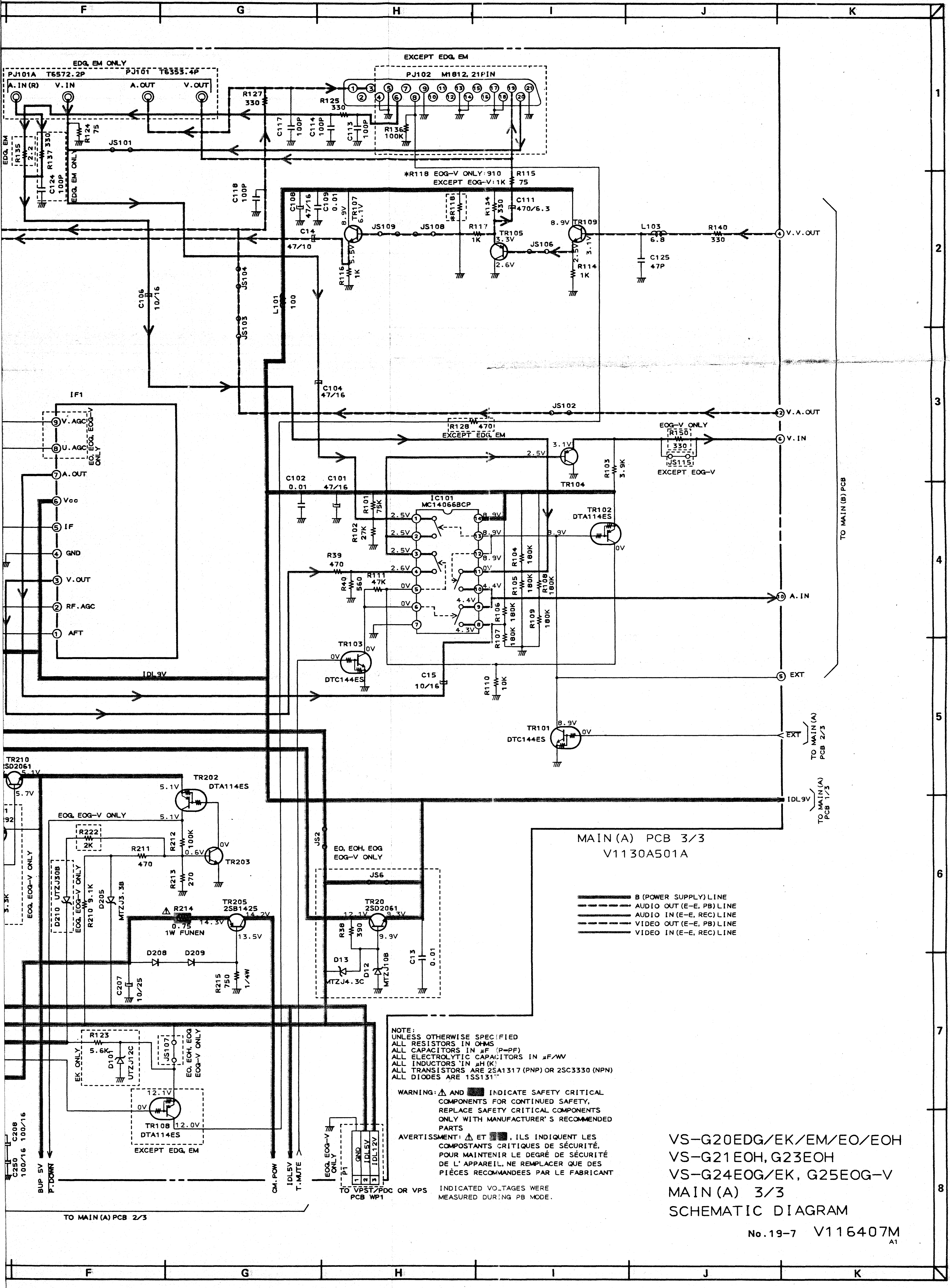
AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
MAIN (A) 2/3 (SERVO, SYSCON)
SCHEMATIC DIAGRAM

No.19-6 V116406M
A1

3 V1130A501A


MD1
EM:YAA21-0808G
EK:ENC879P9
EDG:MDLK6E753A
EO, EOH, EOG, EOG-V
:ENC879P8
RF OUT
ANT IN
BOOSTER
BOOSTER
ANT.OUT
MODULAT
FM MODULATOR
CLAMP
BST.+B
NC
MD.+B
A.IN
V.IN
EOG, EOG-V ONLY
TO VPST PCB P601
GND
MOTOR13
RF 5V
WP201
EXCEPT EOG-V
JS10
FL1
FILTER EMI
ZBF503D-00TA
C20
0.01
EOG-V ONLY
JS7
EXCEPT EOG
EOG-V
IDL5V
MD
R2
3.3K
R1
6.8K
TR1
4.4V
5.1V
4.9V
C1
10/16
C2
10/16
TU1
EDG:TERE1-019B
EK:TERB1-008A
EM:VTSS6CZ
EOH:ENV-578C9F1
EO, EOG, EOG-V:TEKE4-034A
TU1
ANT.IN
FILTER
RF AMP
MIX AMP
IF AMP
OSC
UHF
TU.V
VH
AGC
VL
AFT
+B
IF
*L1
EDG:1.0
EK:0.68
EXCEPT EK, EDG:NOT USED
TR2
2SC2668
PWM
R3
4.7K
R4
4.7K
R7
22K
R8
10K (F)
R9
10K
R10
10K
R11
22K
C4
0.1 (M)
C5
0.1 (M)
C6
0.1 (M)
C7
0.082 (M)
EOH, EDG
EOG-V ONLY
R50
680K
D50
TR3
32.3V
38.1V
37.5V
R5
75
D2
D1
IC1
L5631
C3
10/50
R6
33K
+37V
EO, EOG
EOG-V ONLY
D10
D9
*L1
R60
10
EDG ONLY
EO ONLY
C17
(CH)
10P
EXCEPT EK
C16
0.01
R21
22K
JS1
EK ONLY
IDL9/12V
C9
0.01
C8
100/16
EXCEPT EOH, EOG, EOG-V
TR13
R26 150K
R27 470
*TR14:DTC144TS
*R28
TR4
TR5
TR7
R12
R13
10K
R14
R15
10K
R18
2.2K
R19
2.2K
R20
4.7K
D3
D4
12.1V
11.9V
11.3V
DTC144ES
DTC144ES
BAND.A
TR8
TR9
12.0V
EXCEPT EK
BAND.B
C10
EOH, EOG, EOG-V ONLY
D6
UTZJ8.2C
R33
2M
D7
R32
910K
C11
0.001
TR16
R29
330K
*TR14
R31
10K
R30
270K
R25
10K
IDL9/12V
R24
22K
TR12
6.8V
6.2V
R22
390K
TR11
R23
330K
C12
0.0068 (M)
EOH ONLY
AFT-E
TR15
DTC114ES
5.1V
*C10 EDG:2.2/50
EK, EM, EO:1/50
*R28 EO:910
EDG, EK, EM:560
AFT
TR17
R34
5.6K
R35
2.2K
D8
HZS6A1L
TR18
R36
2.2K
R37
1.2K
IC201
NJM4558L (2/2)
R208
1K
*R205
EO, EOG, EOG-V, EOH
:1.3K (F)
EA, EM, EK, EDG
:2.2K (F)
C205
100P
R206
10
R204
1.6K (F)
R220
1K
D207
EOG, EOG-V ONLY
C204
47/16
C201 100P
IC201
NJM4558L (1/2)
R202
10
R207
100K
C203
10/16
D204
HZS5C3
R250
75
D203
R209
1K
R203
3.3K
D206
EOG, EOG-V ONLY
C206
10/50
FR201
120
1/4W
TR210
2SD2061
TR201
2SD1292
R201
220
D202
D201
D211
UTZJ6.2A
R223
3.3K
C202
47/6.3
EOG, EOG-V ONLY
IF1
V.AGC
U.AGC
EOG, EOG-V ONLY
A.OUT
Vcc
IF
GND
V.OUT
RF.AGC
AFT
IDL9V
EDG, EM ONLY
PJ101A T6572.2P
PJ101 T6353
A.IN(R)
V.IN
A.OUT
R124
75
JS101
EXCEPT EDG, EM
R135
2.2
R137
330
C124
100P
EDG, EM ONLY
R126
330
C106
10/16
EOG, EOG-V ONLY
R222
2K
R211
470
R212
R213
D210
UTZJ30B
EOG, EOG-V ONLY
R210
9.1K
D205
MTZJ3.3B
R214
0.75
1W FU
D208
C207
10/25
EOG, EOG-V ONLY
C210
0.01
R224
10K
TR209
DTC144ES
EOG, EOG-V ONLY
TR211
DTA114ES
EXCEPT EM
EM ONLY
JS4
JS5
TR19
DTC144ES
EXCEPT EDG
EXCEPT EDG, EK, EM
FR202
0.56
1/4W
JS201
EDG, EK, EM ONLY
D212
1N4002
D213
1N4002
C208
100/16
C250
100/16
R123
5.6K
EK ONLY
D101
UTZJ12C
JS107
EO, EOH, EOG
TR108
DTA114ES
EXCEPT EDG, E
WF201
GND
OPE5V
IDL5V
GND
OPE12/9V
IDL12/9V
MOTOR13V
UNR16V
+37V
-35V
AC4V
AC4V
PWM
BAND.A
BAND.B
AFT
AFT-L
AFT-H
RESET
AL
TV/VCR
TO MAIN (A) PCB 2/3
TO MAIN (A) PCB 1/3
TO MAIN (A) PCB 2/3
TO POWER SUPPLY PCB OR
POWER SUPPLY (2) PCB P1
AC4V
AC4V
-35V
MOTOR13V
DM POWER
BUP 5V
P.DOWN
TO MAIN (A) PCB 2/3
A
B
C
D
E
F
1
2
3
4
5
6
7


F
G
H
I
J
K
1
2
3
4
5
6
7
8
EDG, EM ONLY
PJ101A T6572.2P
PJ101 T6353.4P
A.IN(R)
V.IN
A.OUT
V.OUT
EXCEPT EDG, EM
PJ102 M1812, 21PIN
R127 330
R125 330
C117 100P
C114 100P
C113 100P
R136 100K
R124 75
JS101
R135 2.2
R137 330
C124 100P
EDG, EM ONLY
C118 100P
*R118 EOG-V ONLY:910
EXCEPT EOG-V:1K
R115 75
C108 47/16
C109 0.01
TR107 6.1V
8.9V
R134 330
C111 470/6.3
*R118
TR109
8.9V
C14 47/10
JS109
JS108
R117 1K
TR105 3.3V
JS106
2.5V
3.1V
5.5V
R116 1K
2.6V
R114 1K
L103 6.8
R140 330
C125 47P
V.V.OUT
C106 10/16
JS104
JS103
L101 100
C104 47/16
IF1
V.AGC
U.AGC
EO, EOG, EOG-V
EO, EOG, EOG-V ONLY
A.OUT
Vcc
IF
GND
V.OUT
RF.AGC
AFT
JS102
R128 470
EXCEPT EDG, EM
V.A.OUT
EOG-V ONLY
R150 330
JS115
EXCEPT EOG-V
V.IN
TR104
R103 3.9K
C102 0.01
C101 47/16
R101 75K
R102 27K
IC101 MC14066BCP
TR102 DTA114ES
R39 470
R40 560
R111 47K
R104 180K
R105 180K
R108 180K
R106 180K
R107 180K
R109 180K
A.IN
TO MAIN(B)PCB
TR103 DTC144ES
C15 10/16
R110 10K
EXT
IDL9V
TR101 DTC144ES
TO MAIN(A) PCB 2/3
TO MAIN(A) PCB 1/3
TR210 2SD2061
TR202 DTA114ES
EOG, EOG-V ONLY
R222 2K
R211 470
R212 100K
R213 270
TR203
D210 UTZJ30B
EOG, EOG-V ONLY
R210 9.1K
D205 MTZJ3.3B
R214 0.75 1W FUNEN
TR205 2SB1425
14.3V
14.2V
13.5V
D208
D209
C207 10/25
R215 750 1/4W
JS2
EO, EOH, EOG EOG-V ONLY
JS6
TR20 2SD2061
12.1V
9.3V
9.9V
R38 390
D13 MTZJ4.3C
D12 MTZJ10B
C13 0.01
R123 5.6K
D10 UTZJ12C
EK ONLY
JS107
EO, EOH, EOG EOG-V ONLY
TR108 DTA114ES
EXCEPT EDG, EM
C208 100/16
C250 100/16
BUP 5V
P.DOWN
CM.POW
IDL5V
T.MUTE
EOG, EOG-V ONLY
P1
GND
IDL5V
IDL12V
TO VPST/PDC OR VPS PCB WP1
TO MAIN(A)PCB 2/3
B (POWER SUPPLY) LINE
AUDIO OUT (E-E, PB) LINE
AUDIO IN (E-E, REC) LINE
VIDEO OUT (E-E, PB) LINE
VIDEO IN (E-E, REC) LINE

MAIN(A) PCB 3/3
V1130A501A

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN µF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN µF/WV
ALL INDUCTORS IN µH (K)
ALL TRANSISTORS ARE 2SA1317 (PNP) OR 2SC3330 (NPN)
ALL DIODES ARE 1SS131

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

INDICATED VOLTAGES WERE MEASURED DURING PB MODE.

VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK, G25EOG-V
MAIN(A) 3/3
SCHEMATIC DIAGRAM

No.19-7 V116407M
A1

PRINCIPAL PARTS LOCATION

ICs

IC101	D5
IC201	F4,5
IC301	E1,2
IC302	F1,2
IC303	E,F3
IC400	C3
IC401	C,D4
IC402	C,D1
IC403	C5

WF & WPs

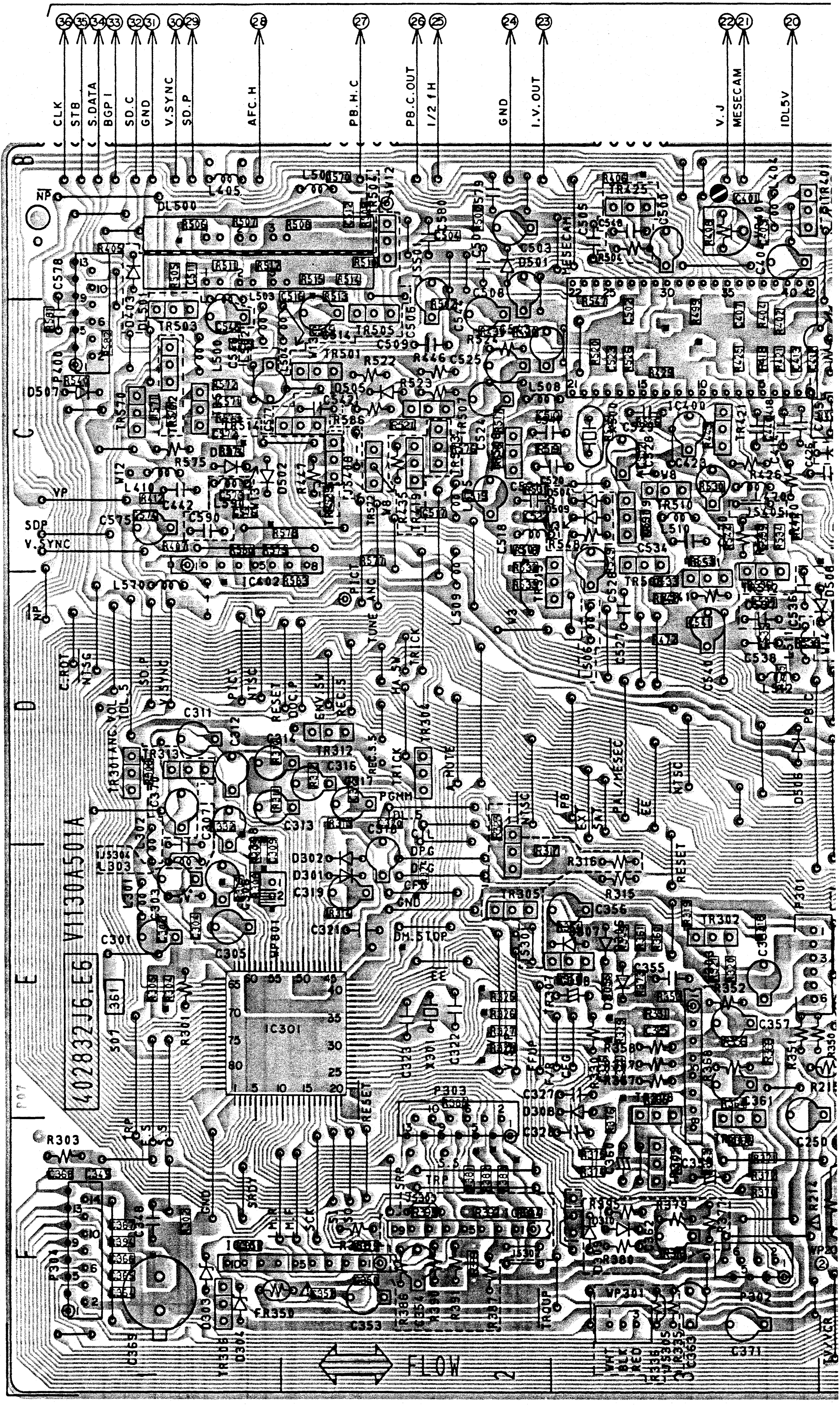
WF201	F4,5
WP301	F3
WP801	E1,2

CONNECTORs

P1	E,F5
P250	F4
P301	E3
P302	F4
P303	E2
P304	F1
P400	B,C1
P401	D5

TRANSISTORs

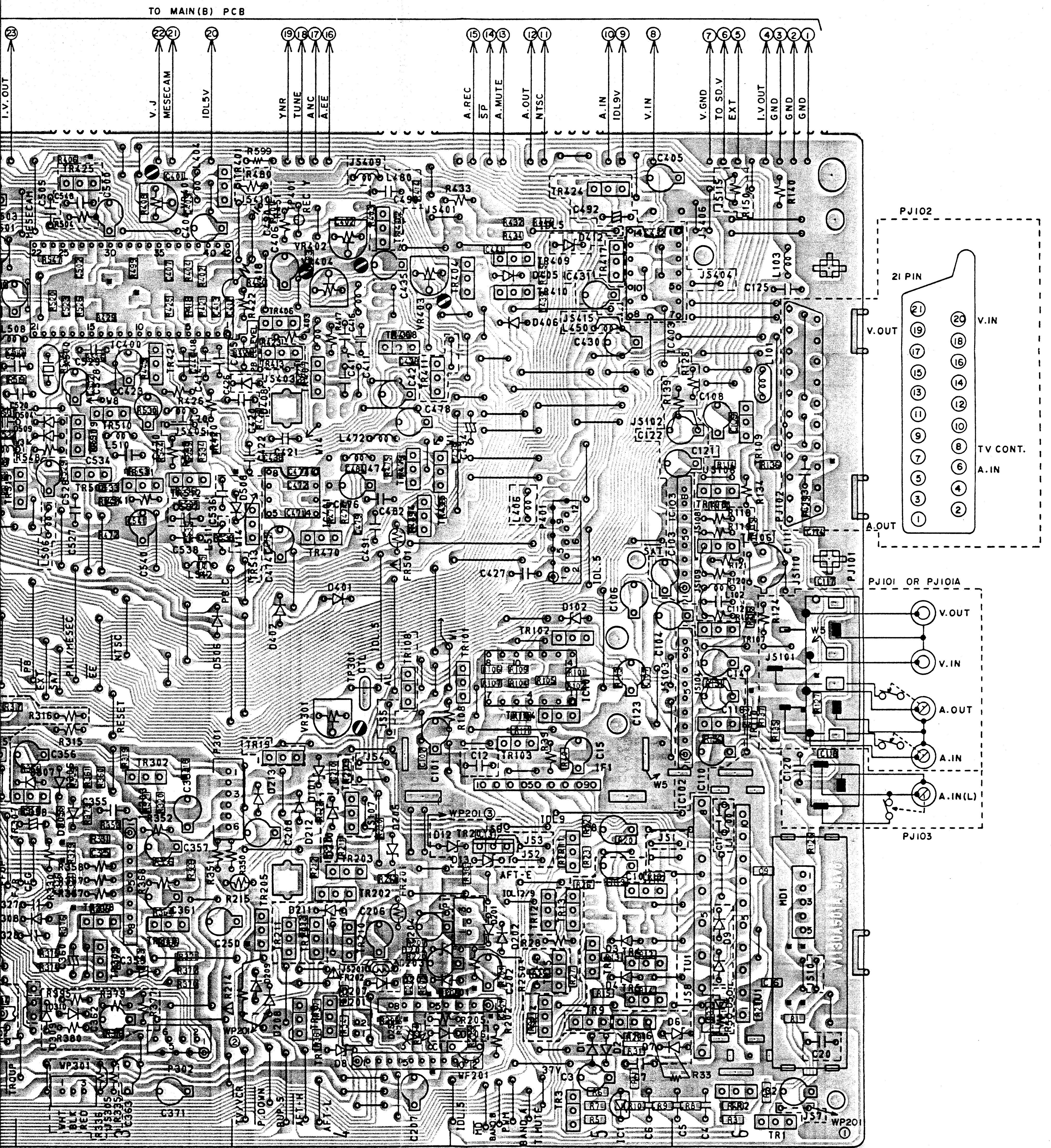
TR1	F6
TR2	F6
TR3	F5
TR4	F5
TR5	F5
TR6	F5
TR7	E5
TR8	F5
TR9	F5
TR11	E5
TR12	E5
TR13	E,F5
TR14	F5
TR15	F5
TR16	F5
TR17	F4
TR18	F4
TR19	E4
TR20	E5
TR101	D5
TR102	D5
TR103	E5
TR104	E5
TR105	D6
TR107	D6
TR108	D4
TR109	C6
TR201	F4
TR202	E4
TR203	E4
TR205	E,F4
TR209	F4
TR210	E,F4
TR211	F4
TR301	D1
TR302	E3
TR303	D,E2
TR304	D2
TR306	F1
TR307	E3
TR308	E,F4
TR309	F3
TR310	E,F3
TR401	B3
TR404	C5
TR406	C4
TR407	C4
TR408	C4
TR409	C5
TR410	C5
TR414	D4
TR415	C4
TR417	C5
TR421	C3
TR423	C2
TR425	B3
TR470	D4
TR471	C4
TR501	C2
TR502	C1
TR503	C1
TR504	C1
TR505	C2
TR506	C2
TR507	C2
TR508	C,D3
TR509	C3
TR510	C3
TR511	D3
TR512	C,D3
TR513	D4
TR514	C2
TR515	C2
TR570	C1
TR571	C1
TR572	C2


TO MAIN(B) PC
㊱ CLK
㉟ STB
㉞ S.DATA
㉝ BGP I
㉜ SD.C
㉛ GND
㉚ V.SYNC
㉙ SD.P
㉘ AFC.H
㉗ PB.H.C
㉖ PB.C.OUT
㉕ 1/2 f H
㉔ GND
㉓ I.V.OUT
㉒ V.J
㉑ MESECAM
⑳ IDL5V
B
C
D
E
F
IC301
IC402
TR503
TR505
TR501
TR313
TR312
TR305
TR302
P303
VP301
P302
DL500
402832J6.E6
VI130A501A
FLOW
2

MAIN(A) PC

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


TO MAIN(B) PCB
I.V.OUT
V.J
MESECAM
IDL5V
YNR
TUNE
ANC
A.EE
A.REC
SP
A.MUTE
A.OUT
NTSC
A.IN
IDL9V
V.IN
V.GND
TO SD.V
EXT
I.V.OUT
GND
GND
GND
PJ102
21 PIN
V.OUT
V.IN
TV CONT.
A.IN
A.OUT
PJ101 OR PJ101A
V.OUT
V.IN
A.OUT
A.IN
A.IN(L)
PJ103
PJ101
PJ102
IC103
IDL5
IDL9
AFT-E
WP201
VR301
VR402
VR403
RESET
NTSC
PAL/MESEC
PB
EE
P.DOWN
AFT.H
AFT.L
TV/VCR
37V
MUTE
TU1
MD1

MAIN(A) PCB V1130A501A(J6)

UED SAFETY,
UFACTURER'S

URITÉ.

FABRICANT

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

PRINCIPAL PARTS LOCATION

ICs

IC601	A3
IC602	A1
IC701	A1
IC702	A2
IC801	A4
IC902	A6

CONNECTORs

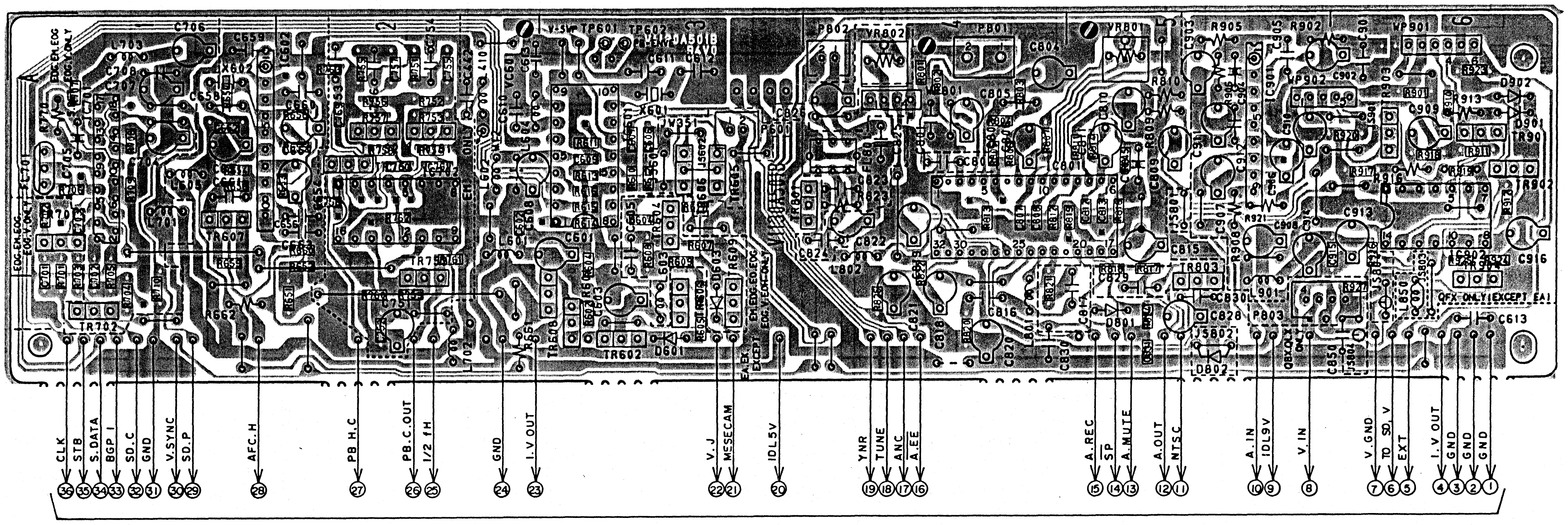
P601	A3
P801	A4
P802	A4
P803	A5,6

WPs

WP801	A4
WP901	A6
WP902	A5,6

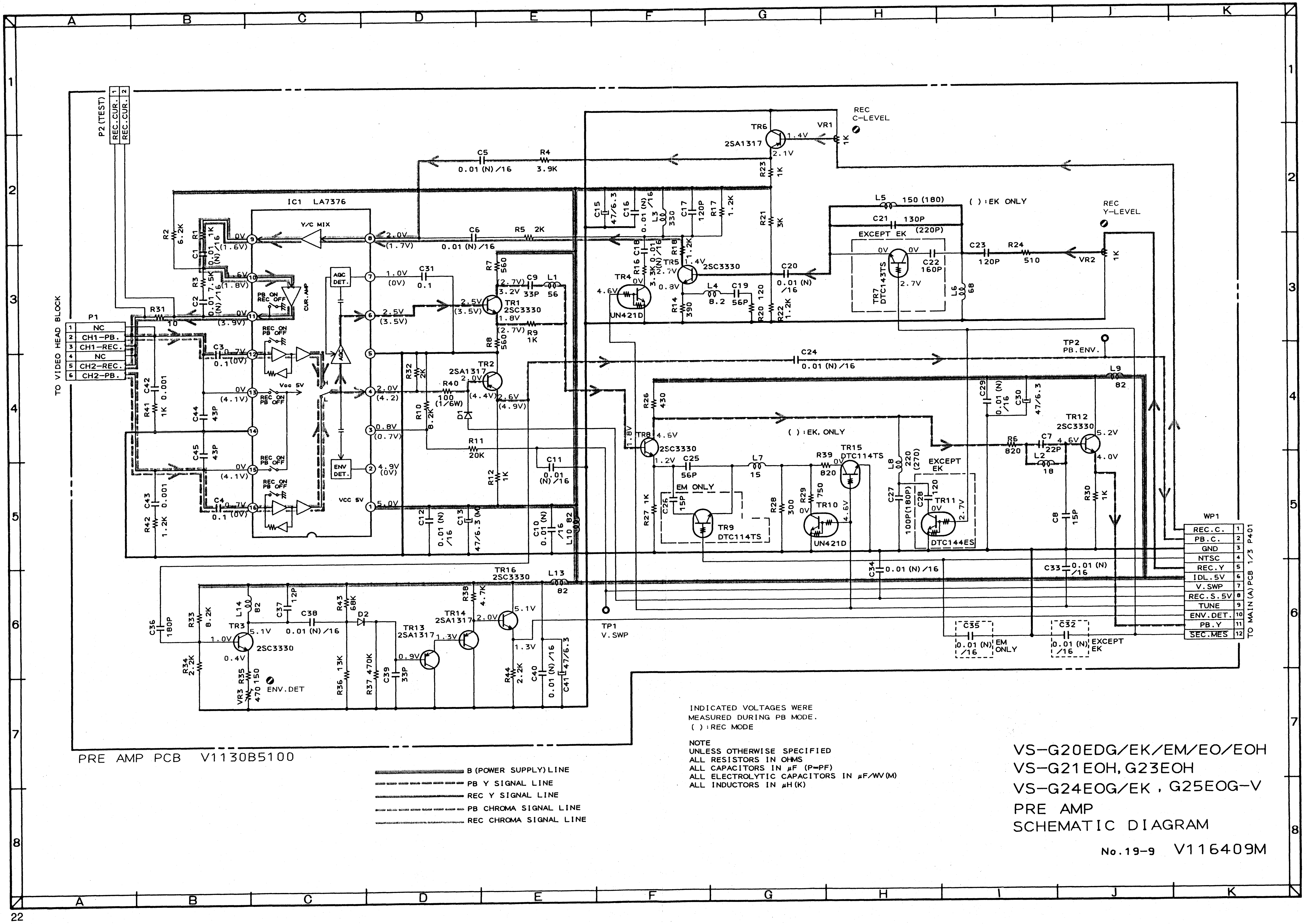
TRANSISTORs

TR601	A3
TR602	A3
TR603	A3
TR604	A3
TR605	A3
TR606	A3
TR607	A1
TR608	A3
TR609	A3
TR701	A1
TR702	A1
TR751	A2
TR752	A2
TR753	A2
TR754	A2
TR801	A4
TR803	B5
TR901	A6
TR902	A6
TR903	A6
TR904	B6


CLK ㊱
STB ㉟
S.DATA ㉞
BGP I ㉝
SD.C ㉜
GND ㉛
V.SYNC ㉚
SD.P ㉙
AFC.H ㉘
PB H.C ㉗
PB.C.OUT ㉖
1/2 fH ㉕
GND ㉔
I.V OUT ㉓
V.J ㉒
MESECAM ㉑
IDL5V ⑳
YNR ⑲
TUNE ⑱
ANC ⑰
A.EE ⑯
A.REC ⑮
SP ⑭
A.MUTE ⑬
A.OUT ⑫
NTS.C ⑪
A.IN ⑩
IDL9V ⑨
V.IN ⑧
V.GND ⑦
TO SD.V ⑥
EXT ⑤
I.V OUT ④
GND ③
GND ②
GND ①
TO MAIN(A) PCB

MAIN(B) PCB VI130A501B(J6)

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

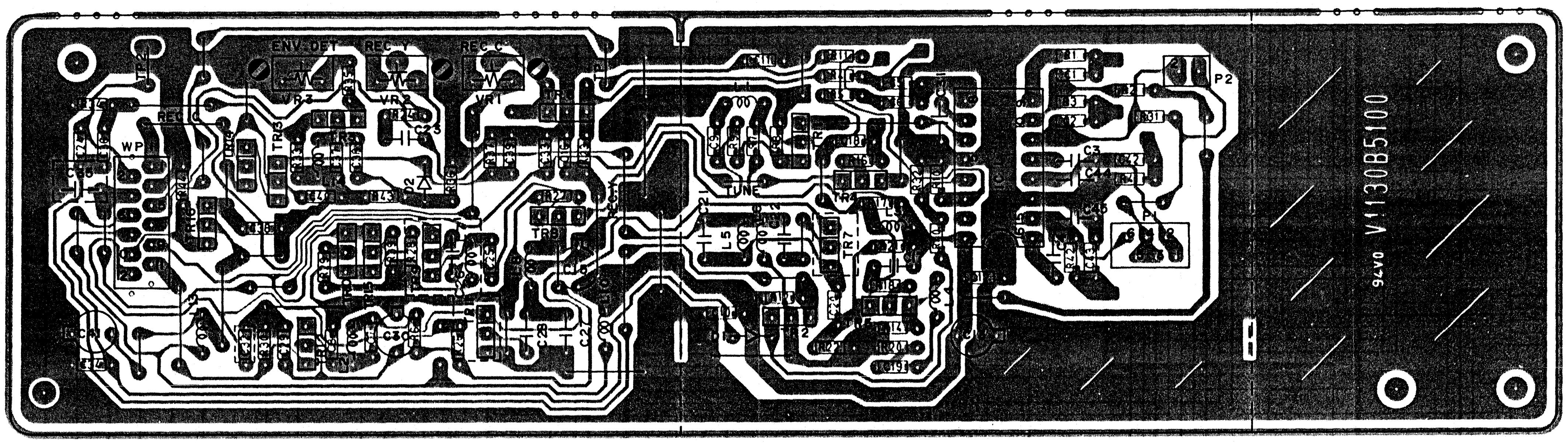

A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
P2 (TEST)
REC.CUR. 1
REC.CUR. 2
TO VIDEO HEAD BLOCK
P1
1 NC
2 CH1-PB.
3 CH1-REC.
4 NC
5 CH2-REC.
6 CH2-PB.
IC1 LA7376
Y/C MIX
AGC DET.
ENV DET.
CUR.AMP
AGC
REC ON PB OFF
PB ON REC OFF
Vcc 5V
VCC 5V
R31 10
R2 6.2K
R1 1K
C1 0.01 (N) /16
R3 7.5K
C2 0.01 (N) /16
C3 0.1
C4 0.1
C42 0.001
R41 1K
C44 43P
C45 43P
C43 0.001
R42 1.2K
C5 0.01 (N) /16
R4 3.9K
C6 0.01 (N) /16
R5 2K
C31 0.1
R7 560
C9 33P
L1 56
TR1 2SC3330
R8 560
R9 1K
TR2 2SA1317
R32 2K
R40 100 (1/6W)
R10 8.2K
D1
R11 20K
R12 1K
C11 0.01 (N) /16
C12 0.01 (N) /16
C13 47/6.3 (M)
C10 0.01 (N) /16
L10 82
TR6 2SA1317
VR1 1K
REC C-LEVEL
R23 1K
R21 3K
C15 47/6.3
C16 0.01 (N) /16
L3 330
C17 120P
R17 1.2K
R16 3.3K
C18 0.01 (N) /16
R18 1.2K
TR5 2SC3330
TR4 UN421D
R14 390
L4 8.2
C19 56P
R20 120
R22 1.2K
C20 0.01 (N) /16
L5 150 (180)
( ) : EK ONLY
C21 130P (220P)
EXCEPT EK
TR7 DTC143TS
C22 160P
L6 68
C23 120P
R24 510
VR2 1K
REC Y-LEVEL
TP2 PB.ENV.
C24 0.01 (N) /16
L9 82
R26 430
TR8 2SC3330
( ) : EK, ONLY
C25 56P
L7 15
R39 820
TR15 DTC114TS
C29 0.01 (N) /16
C30 47/6.3
TR12 2SC3330
R6 820
C7 22P
L2 18
L8 220 (270)
EXCEPT EK
EM ONLY
C26 15P
TR9 DTC114TS
R27 1K
R28 300
R29 750
TR10 UN421D
C27 100P (180P)
C28 120
TR11 DTC144ES
C8 15P
R30 1K
C34 0.01 (N) /16
C33 0.01 (N) /16
C35 0.01 (N) /16 EM ONLY
C32 0.01 (N) /16 EXCEPT EK
WP1
REC.C. 1
PB.C. 2
GND 3
NTSC 4
REC.Y 5
IDL.5V 6
V.SWP 7
REC.S.5V 8
TUNE 9
ENV.DET. 10
PB.Y 11
SEC.MES 12
TO MAIN (A) PCB 1/3 P401
TP1 V.SWP
TR16 2SC3330
L13 82
C36 180P
R33 8.2K
L14 82
C37 12P
C38 0.01 (N) /16
R43 68K
D2
TR3 2SC3330
TR13 2SA1317
TR14 2SA1317
R38 4.7K
R34 2.2K
R35 150
VR3 470
ENV.DET
R36 13K
R37 470K
C39 33P
R44 2.2K
C40 0.01 (N) /16
C41 47/6.3
PRE AMP PCB V1130B5100
B (POWER SUPPLY) LINE
PB Y SIGNAL LINE
REC Y SIGNAL LINE
PB CHROMA SIGNAL LINE
REC CHROMA SIGNAL LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
( ) : REC MODE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV(M)
ALL INDUCTORS IN μH(K)

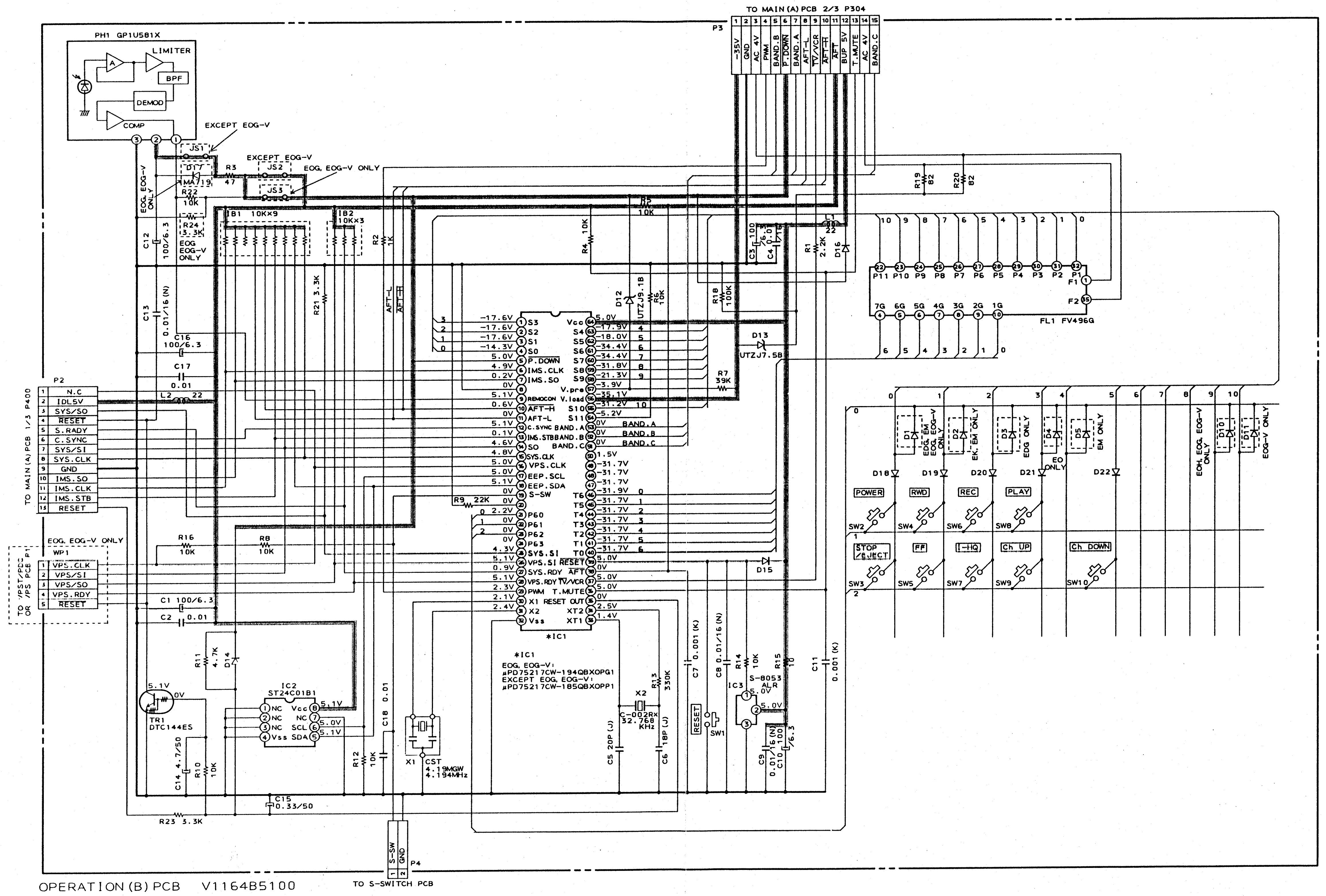
VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK , G25EOG-V
PRE AMP
SCHEMATIC DIAGRAM

No.19-9 V116409M


ENV DET
REC Y
REC C
VR3
VR2
VR1
WP
TR3
TR8
TUNE
TR4
TR7
L5
C3
P2
P1
V1130B5100
94V0

PRE AMP PCB V1130B5100

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.


TO MAIN (A) PCB 2/3 P304
P3
-35V
GND
AC 4V
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC 4V
BAND.C
PH1 GP1U581X
LIMITER
BPF
DEMOD
COMP
EXCEPT EOG-V
JS1
JS2
JS3
EOG, EOG-V ONLY
D17 MA719
R3 47
R22 10K
R24 3.3K
EOG EOG-V ONLY
C12 100/6.3
RB1 10K×9
RB2 10K×3
R2 1K
R4 10K
R5 10K
R21 3.3K
C13 0.01/16 (N)
C16 100/6.3
C17 0.01
L2 22
P2
TO MAIN (A) PCB 1/3 P400
N.C
IDL5V
SYS/SO
RESET
S.RADY
C.SYNC
SYS/SI
SYS.CLK
GND
IMS.SO
IMS.CLK
IMS.STB
RESET
EOG, EOG-V ONLY
WP1
TO VPST/PDC OR VPS PCB P1
VPS.CLK
VPS/SI
VPS/SO
VPS.RDY
RESET
R16 10K
R8 10K
C1 100/6.3
C2 0.01
R9 22K
*IC1
*IC1 EOG, EOG-V: µPD75217CW-194QBXOPG1 EXCEPT EOG, EOG-V: µPD75217CW-185QBXOPP1
IC2 ST24C01B1
R11 4.7K
D14
TR1 DTC144ES
C14 4.7/50
R10 10K
R12 10K
C18 0.01
C15 0.33/50
R23 3.3K
X1 CST 4.19MGW 4.194MHz
X2 C-002RX 32.768 KHz
R13 330K
C5 20P (J)
C6 18P (J)
C7 0.001 (K)
C8 0.01/16 (N)
R14 10K
R15 10
IC3 S-8053 ALR
C9 0.01/16 (N)
C10 100/6.3
C11 0.001 (K)
SW1 RESET
D12 UTZJ9.1B
D13 UTZJ7.5B
D15
D16
R1 2.2K
R6 10K
R7 39K
R18 100K
C3 100/6.3
C4 0.01
L1 22
R19 82
R20 82
FL1 FV496G
D18 D19 D20 D21 D22
POWER
RWD
REC
PLAY
STOP /EJECT
FF
I-HQ
Ch UP
Ch DOWN
SW2 SW3 SW4 SW5 SW6 SW7 SW8 SW9 SW10
D1 EOG EM EOG-V ONLY
D2 EK, EM ONLY
D3 EOG ONLY
D4 EO ONLY
D5 EM ONLY
D10 D11 EOH, EOG, EOG-V ONLY
EOG, EOG-V ONLY
P4
S-SW
GND
TO S-SWITCH PCB

OPERATION (B) PCB V1164B5100

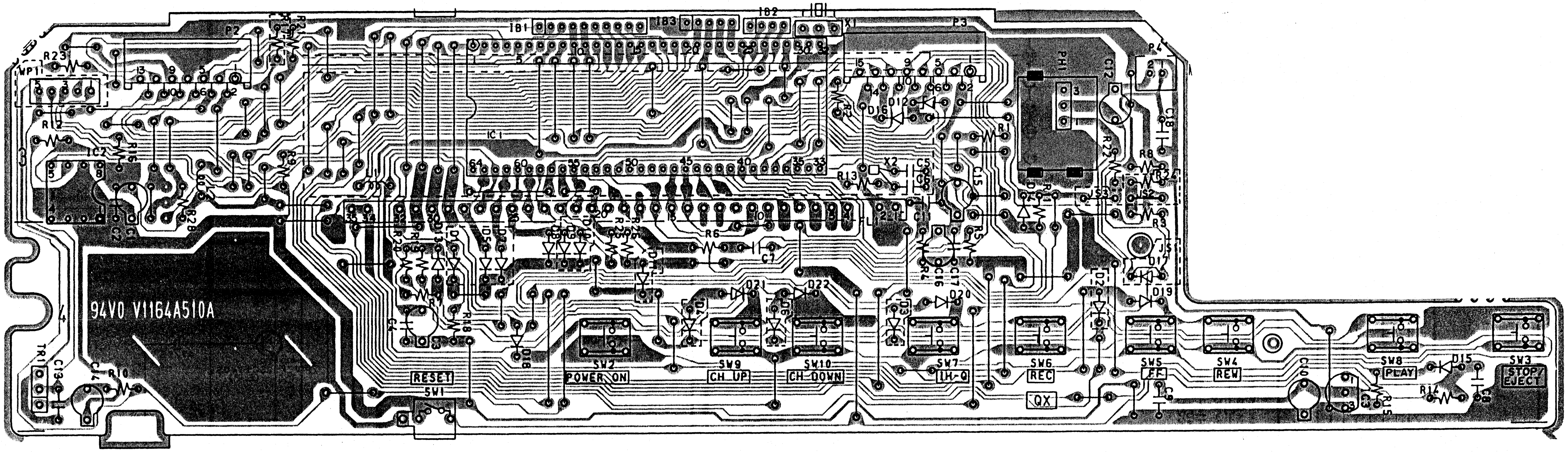
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50WV (M)
ALL DIODES ARE 1SS131T

B (POWER SUPPLY) LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.

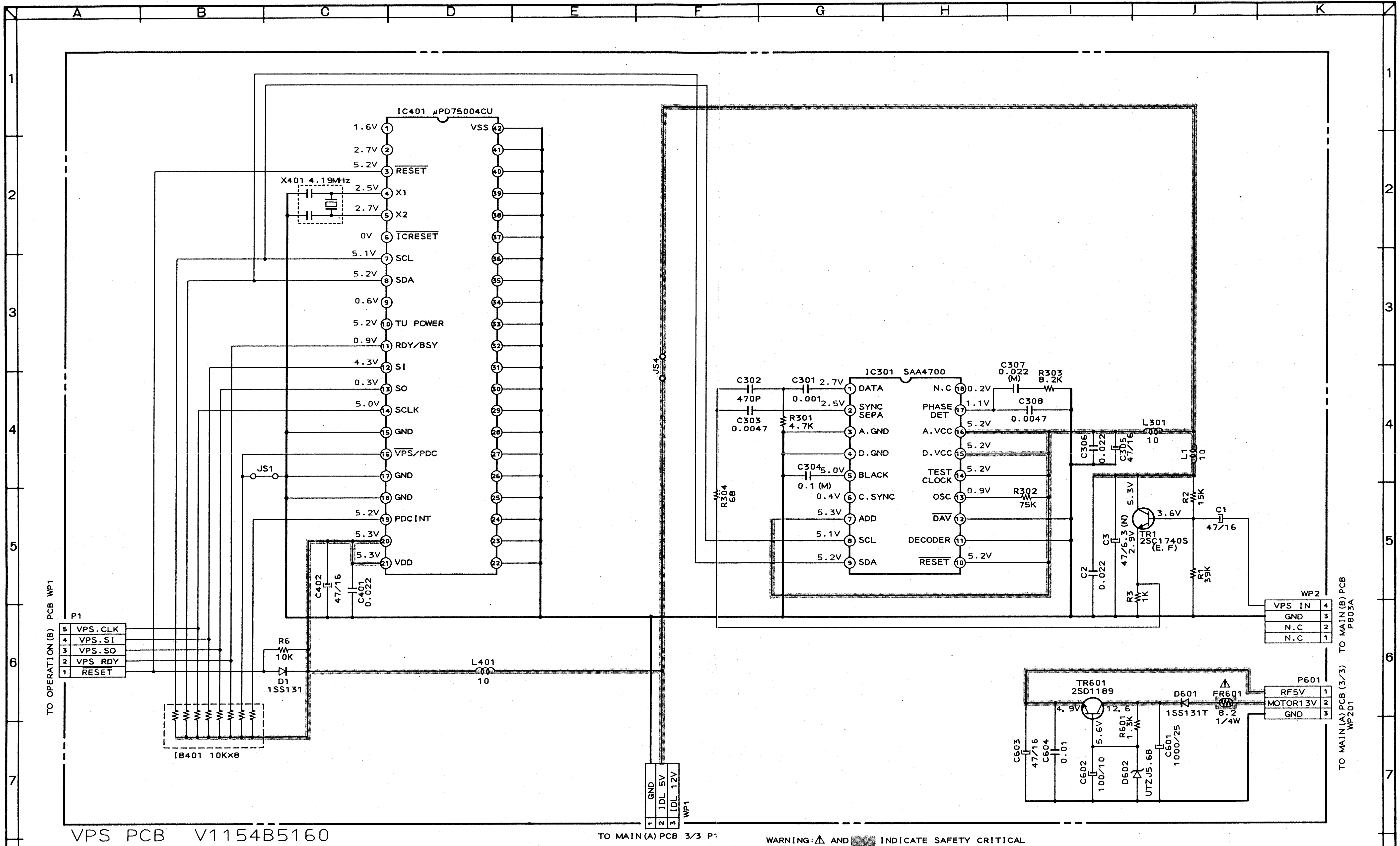
VS-G20EDG/EK/EM/EO/EOH
VS-G21EOH, G23EOH
VS-G24EOG/EK , G25EOG-V
OPERATION (B)
SCHEMATIC DIAGRAM

No.19-10 V116410M
A2


IB1
IB2
IB3
X1
P2
P3
P4
PH1
WP1
R23
R12
R16
IC2
IC1
X2
R13
R6
C7
D21
D22
D20
D19
D17
D18
D15
R17
TR1
C13
C14
R10
C10
94V0 V1164A510A
RESET
SW1
SW2
POWER ON
SW9
CH UP
SW10
CH DOWN
SW7
IH-Q
SW6
REC
SW5
FF
SW4
REW
SW8
PLAY
SW3
STOP/
EJECT
QX

OPERATION (B) PCB V1164A510A

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
IC401 μPD75004CU
1.6V ①
2.7V ②
5.2V ③ RESET
2.5V ④ X1
2.7V ⑤ X2
0V ⑥ ICRESET
5.1V ⑦ SCL
5.2V ⑧ SDA
0.6V ⑨
5.2V ⑩ TU POWER
0.9V ⑪ RDY/BSY
4.3V ⑫ SI
0.3V ⑬ SO
5.0V ⑭ SCLK
⑮ GND
⑯ VPS/PDC
⑰ GND
⑱ GND
5.2V ⑲ PDCINT
5.3V ⑳
5.3V ㉑ VDD
VSS ㊷
X401 4.19MHz
JS1
JS4
C402 47/16
C401 0.022
P1
5 VPS.CLK
4 VPS.SI
3 VPS.SO
2 VPS RDY
1 RESET
TO OPERATION (B) PCB WP1
R6 10K
D1 1SS131
L401 10
IB401 10K×8
GND
IDL 5V
IDL 12V
WP1
1 2 3
IC301 SAA4700
C302 470P
C301 0.001
C303 0.0047
R301 4.7K
R304 68
C304 0.1 (M)
2.7V ① DATA
2.5V ② SYNC SEPA
③ A.GND
④ D.GND
5.0V ⑤ BLACK
0.4V ⑥ C.SYNC
5.3V ⑦ ADD
5.1V ⑧ SCL
5.2V ⑨ SDA
N.C ⑱ 0.2V
PHASE DET ⑰ 1.1V
A.VCC ⑯ 5.2V
D.VCC ⑮ 5.2V
TEST CLOCK ⑭ 5.2V
OSC ⑬ 0.9V
DAV ⑫
DECODER ⑪
RESET ⑩ 5.2V
C307 0.022 (M)
R303 8.2K
C308 0.0047
R302 75K
L301 10
C306 0.022
C305 47/16
L1 10
R2 15K
R1 39K
R3 1K
C1 47/16
C3 47/6.3 (N)
C2 0.022
5.3V
3.6V
2.9V
TR1 2SC1740S (E, F)
WP2
4 VPS IN
3 GND
2 N.C
1 N.C
TO MAIN (B) PCB P803A
TR601 2SD1189
4.9V
12.6
5.6V
D601 1SS131T
FR601 8.2 1/4W
R601 1.3K
C603 47/16
C604 0.01
C602 100/10
D602 UTZJ5.6B
C601 1000/25
P601
1 RF5V
2 MOTOR13V
3 GND
TO MAIN (A) PCB (3/3) WP201

VPS PCB V1154B5160

TO MAIN (A) PCB 3/3 P

▨ : B (POWER SUPPLY) LINE

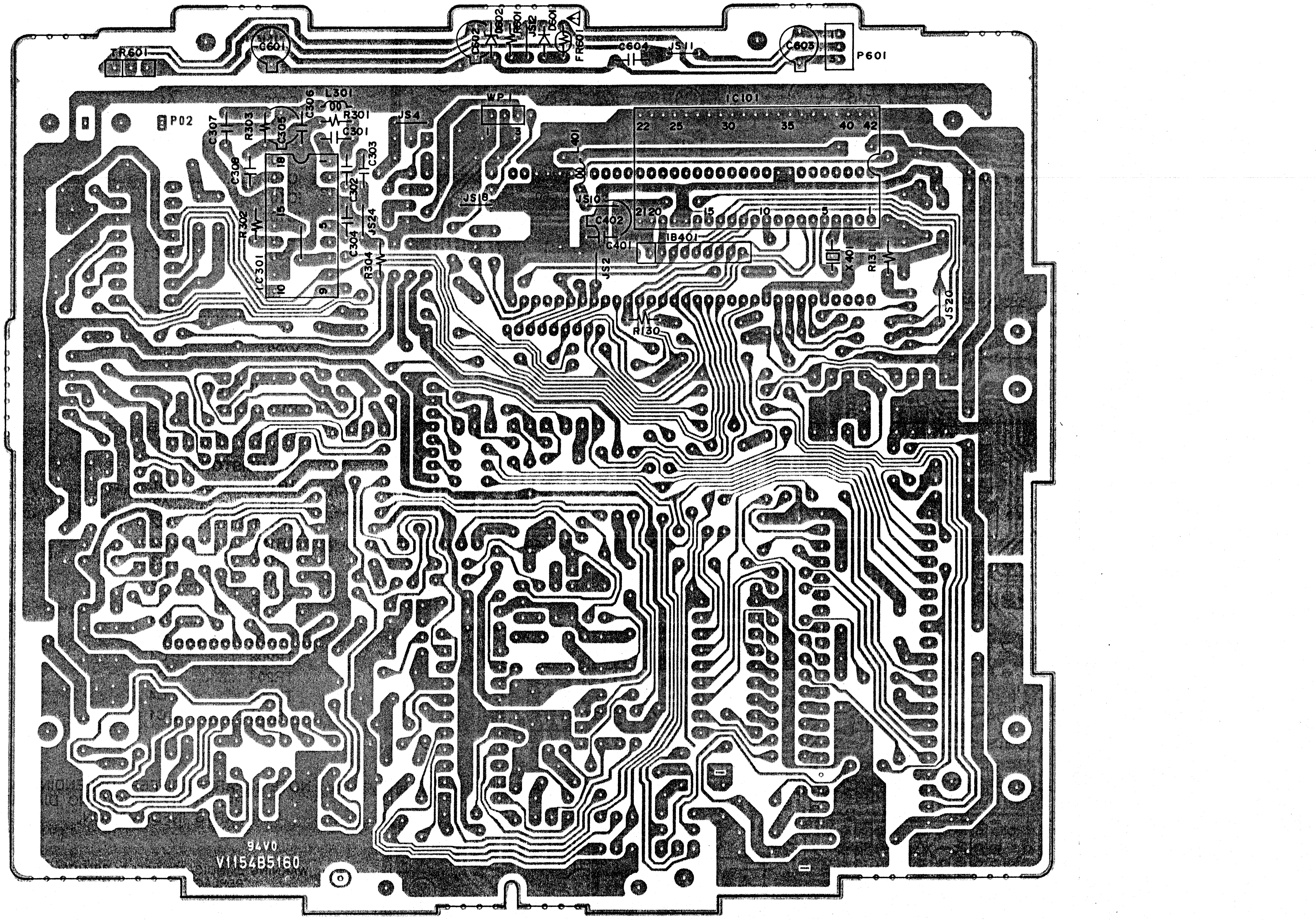
NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTOR IN μH

INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL
COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED
PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES
COMPOSTANTS CRITIQUES DE SÉCURITÉ,
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ
DE L'APPAREIL, NE REMPLACER QUE DES
PIÈCES RECOMMANDEES PAR LE FABRICANT

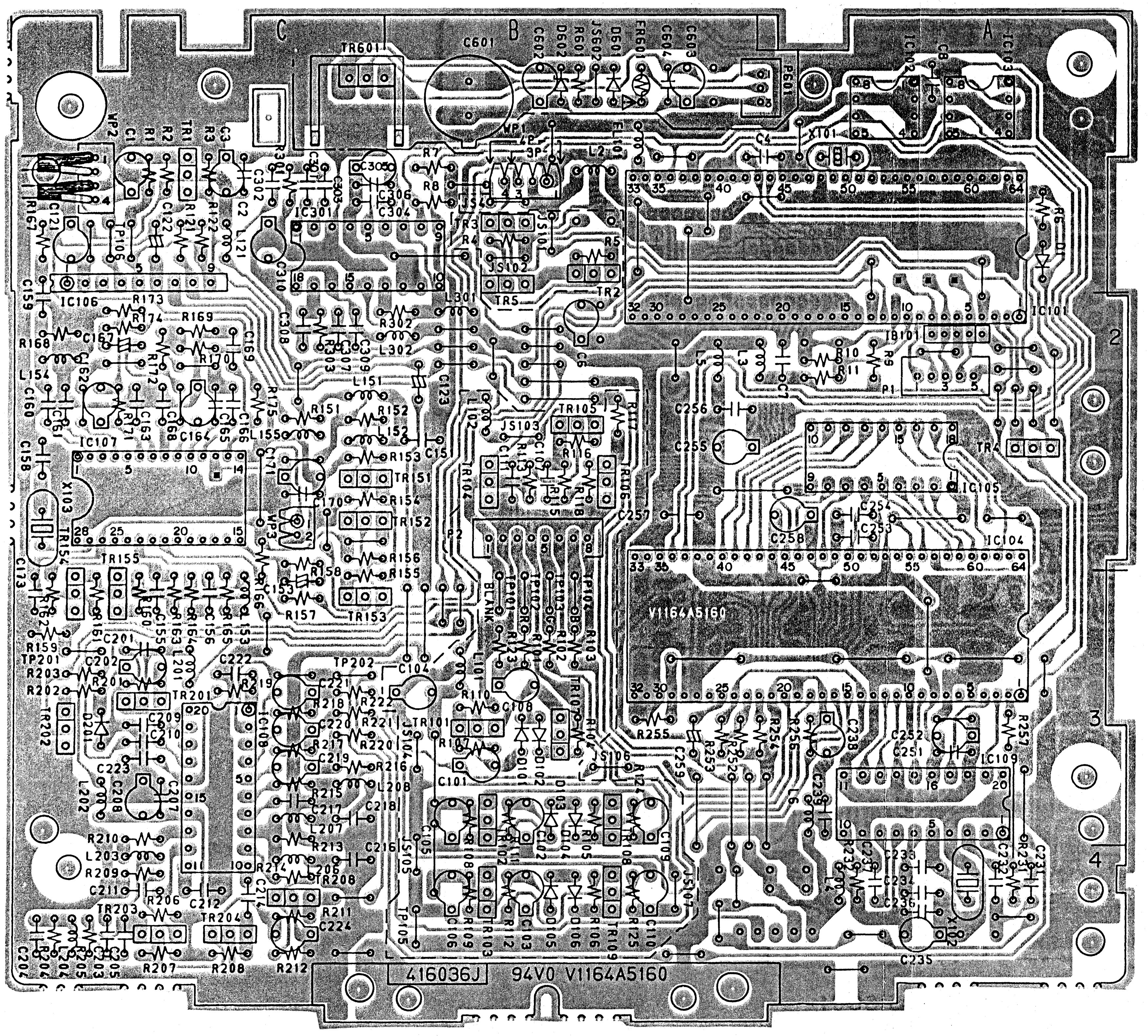
VS-G24EOG
VPS
SCHEMATIC DIAGRAM
No.19-11 V116411M
A3


TR601
C601
C602
D602
R601
JS12
D601
FR601
C604
JS11
C603
P601
1
2
3
P02
C307
R303
C305
C306
L301
R301
C301
C303
C308
18
15
5
9
10
IC301
R302
C302
C304
JS24
R304
JS4
WP1
1
3
JS18
IC101
22
25
30
35
40
42
L401
JS10
C402
C401
21
20
15
10
5
1
IB401
JS2
X401
R131
R130
JS20
94V0
V1154B5160

VPS PCB V1154B5160J1

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT



VPST/PDC PCB V1164A5160

PRINCIPAL PARTS LOCATION

ICs

IC101	A,B1
IC102	A1
IC103	A1
IC104	A,B3
IC105	A2
IC106	C1
IC107	C2
IC108	C3
IC109	A3
IC301	B,C1

WIREs

WP1	B1
WP2	C1
WP3	C2

CONNECTORs

P1	A2
P601	A,B1

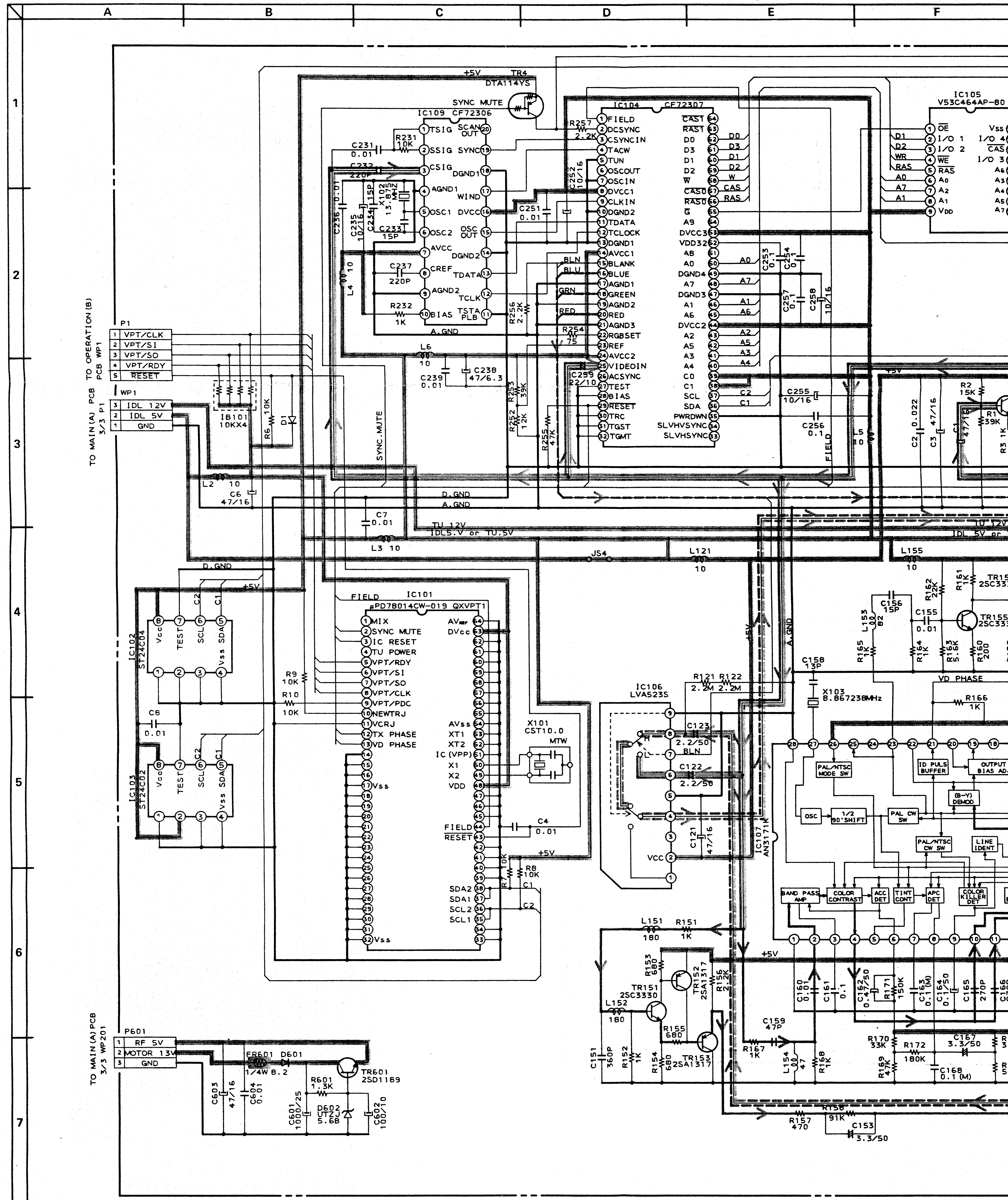
TRANSISTORs

TR1	C1
TR4	A2
TR151	C2
TR152	C2
TR153	C3
TR154	C3
TR155	C3
TR201	C3
TR202	C3
TR203	C4
TR204	C4
TR208	C4
TR601	C1

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

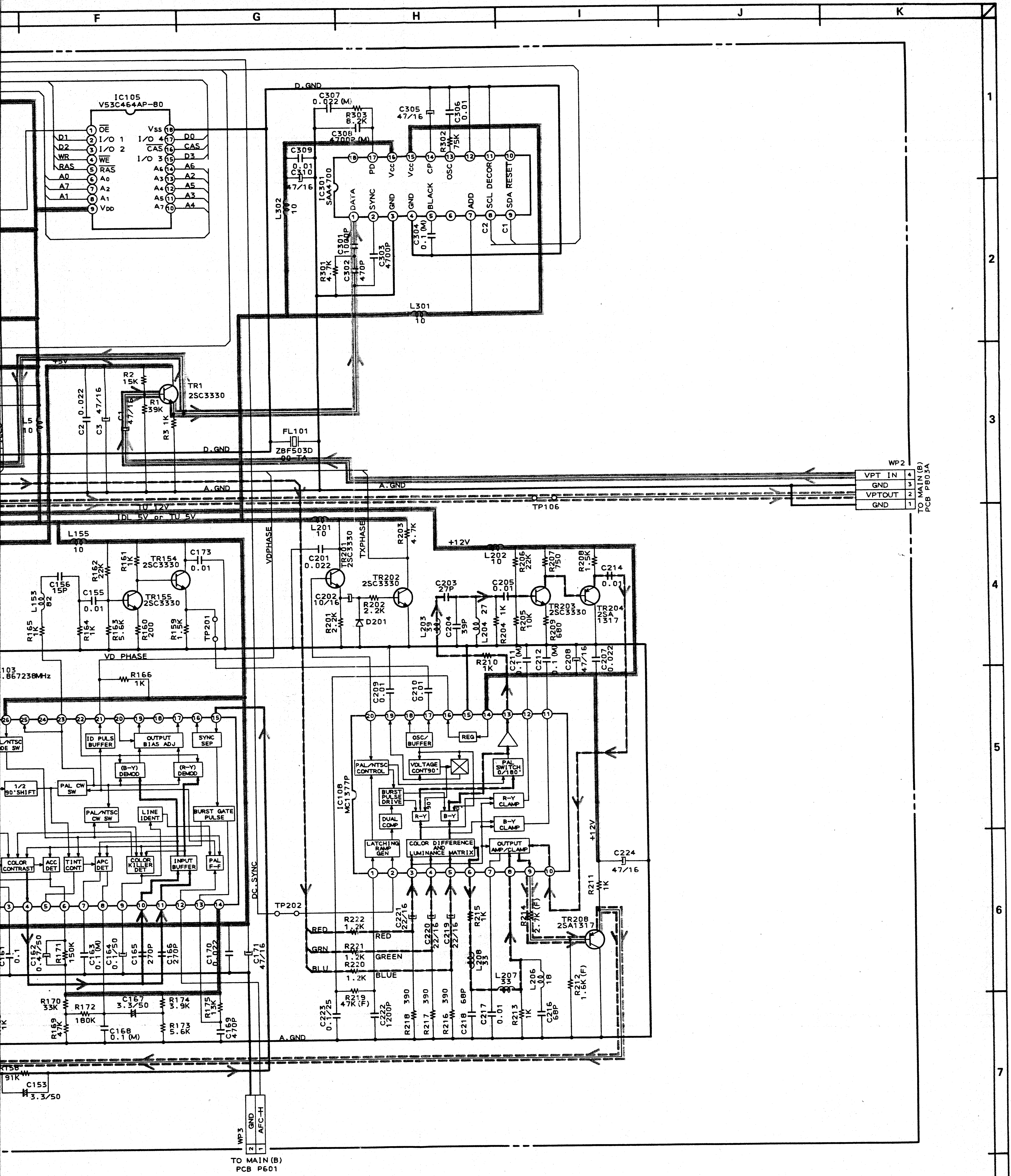
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO OPERATION (B) PCB WP1
P1
VPT/CLK
VPT/SI
VPT/SO
VPT/RDY
RESET
TO MAIN (A) PCB 3/3 P1
WP1
IDL 12V
IDL 5V
GND
IB101 10KX4
TR4 DTA114YS
SYNC MUTE
IC109 CF72306
TSIG
SSIG
CSIG
AGND1
OSC1
OSC2
AVCC
CREF
AGND2
BIAS
SCAN OUT
SYNC
DGND1
WIND
DVCC
OSC OUT
DGND2
TDATA
TCLK
TSTA PLB
A.GND
X102 13.875 MHZ
IC104 CF72307
FIELD
DCSYNC
CSYNCIN
TACW
TUN
OSCOUT
OSCIN
DVCC1
CLKIN
DGND2
TDATA
TCLOCK
DGND1
AVCC1
BLANK
BLUE
AGND1
GREEN
AGND2
RED
AGND3
RGBSET
REF
AVCC2
VIDEOIN
ACSYNC
TEST
BIAS
RESET
TRC
TGST
TGMT
CAS1
RAS1
PWRDWN
SLVHVSYNC
SLVHSYNC
IC105 V53C464AP-80
SYNC.MUTE
D.GND
A.GND
TU 12V
IDL5.V or TU.5V
JS4
L121
L155
IC101 μPD78014CW-019 QXVPT1
MIX
SYNC MUTE
IC RESET
TU POWER
VPT/RDY
VPT/SI
VPT/SO
VPT/CLK
VPT/PDC
NEWTRJ
VCRJ
TX PHASE
VD PHASE
X101 CST10.0 MTW
IC102 ST24C04
IC103 ST24C02
IC106 LVA523S
IC107 AN3171K
X103 8.867238MHz
PAL/NTSC MODE SW
OSC
1/2 90°SHIFT
PAL CW SW
PAL/NTSC CW SW
ID PULS BUFFER
OUTPUT BIAS ADJ
(B-Y) DEMOD
LINE IDENT
BAND PASS AMP
COLOR CONTRAST
ACC DET
TINT CONT
APC DET
COLOR KILLER DET
VD PHASE
TR151 2SC3330
TR152 2SA1317
TR153 2SA1317
TO MAIN (A) PCB 3/3 WP201
P601
RF 5V
MOTOR 13V
GND
FR601
D601
TR601 2SD1169
D602 UTZJ 5.6B
+5V
FIELD

VPST/PDC PCB V1164A5160

━━━━ :B (POWER SUPPLY) LINE
──── :Y IN (TUNER) SIGNAL
– – – – :Y VPT SIGNAL
━━━━ :CHROMA IN (TUNER) SIGNAL
– – – – :CHROMA VPT SIGNAL

NOTE
UNLESS OTH
ALL RESIST
ALL CAPACI
ALL INDUCT
ALL DIODES

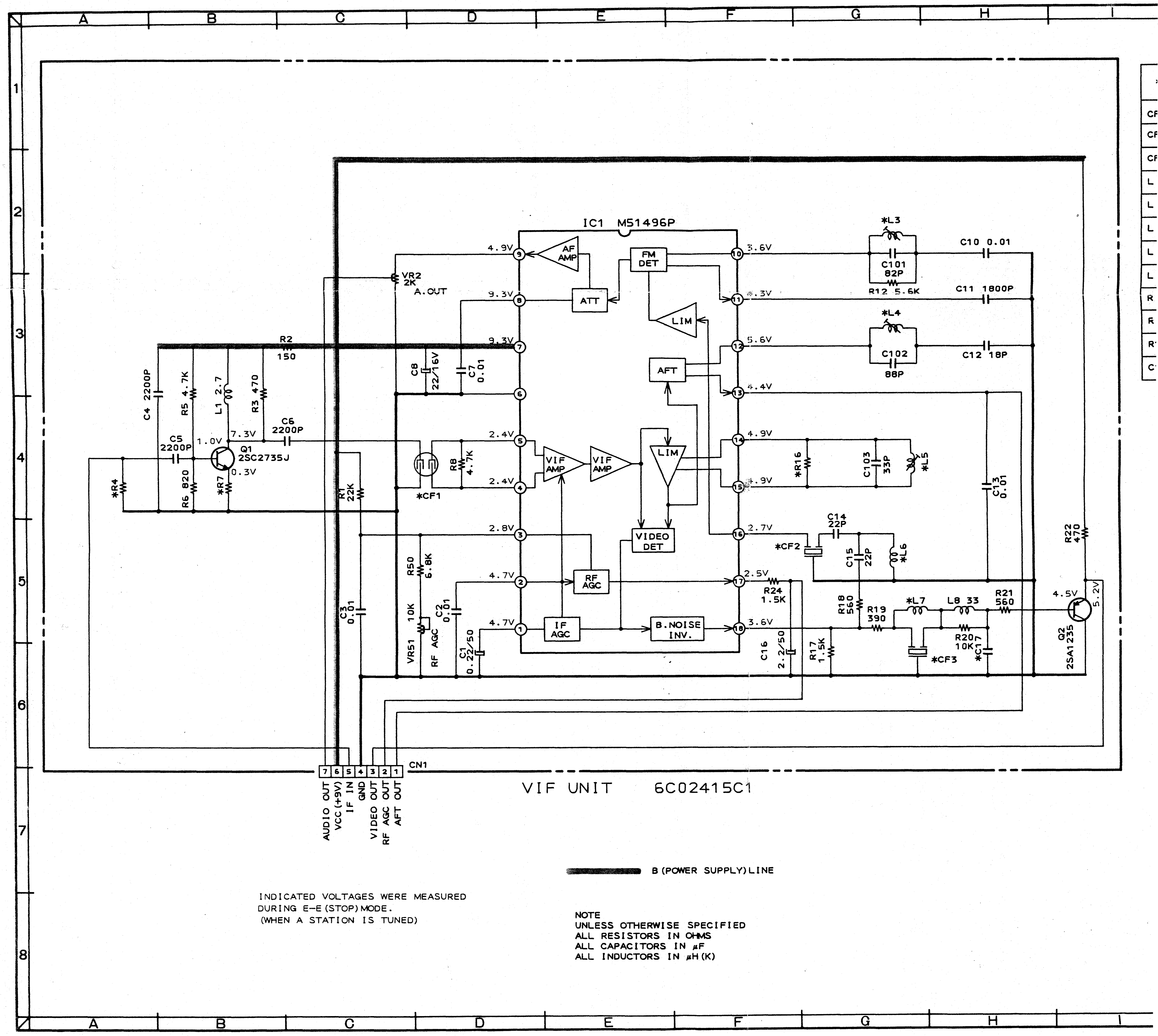

F
G
H
I
J
K
1
2
3
4
5
6
7
8
IC105
V53C464AP-80
D.GND
IC301
SAA4700
C307 0.022 (M)
R303 8.2K
C305 47/16
C306 0.01
C308 4700P (M)
C309 0.01
C310 47/16
R302 75K
L302 10
DATA
SYNC
GND
BLACK
ADD
SCL DECOR
SDA RESET
OSC
Vcc
PD
CP
C304 0.1 (M)
C301 100P
C302 470P
C303 4700P
R301 4.7K
L301 10
+5V
R2 15K
R1 39K
R3 1K
TR1 2SC3330
C2 0.022
C3 47/16
C1 47/16
L5 10
FL101
ZBF503D 00 TA
A.GND
TU 12V
IDL 5V or TU 5V
WP2
VPT IN
GND
VPTOUT
GND
TO MAIN (B) PCB P803A
TP106
VDPHASE
TXPHASE
L155 10
TR154 2SC3330
TR155 2SC3330
C173 0.01
C156 15P
C155 0.01
L153 82
TP201
VD PHASE
R166 1K
.867238MHz
L201 10
C201 0.022
TR201 2SC3330
R203 4.7K
TR202 2SC3330
C202 10/16
R202 2.2K
D201
R201 2.2K
+12V
L202 10
R206 22K
R207 750
R208 1.5K
C214 0.01
C203 27P
C205 0.01
TR203 2SC3330
TR204 2SA1317
L203 39
C204 39P
L204 27
R204 1K
R205 10K
R209 680
R210 1K
C211 0.1 (M)
C212 0.1 (M)
C208 47/16
C207 0.022
C209 0.01
C210 0.01
IC108
MC1377P
PAL/NTSC CONTROL
OSC/BUFFER
REG
VOLTAGE CONT90°
PAL SWITCH 0/180°
BURST PULSE DRIVE
R-Y
B-Y
R-Y CLAMP
B-Y CLAMP
DUAL COMP
LATCHING RAMP GEN
COLOR DIFFERENCE AND LUMINANCE MATRIX
OUTPUT AMP/CLAMP
ID PULS BUFFER
OUTPUT BIAS ADJ
SYNC SEP
(B-Y) DEMOD
(R-Y) DEMOD
1/2 90°SHIFT
PAL CW SW
PAL/NTSC CW SW
LINE IDENT
BURST GATE PULSE
COLOR CONTRAST
ACC DET
TINT CONT
APC DET
COLOR KILLER DET
INPUT BUFFER
PAL F-F
DC SYNC
TP202
RED
GRN
BLU
GREEN
BLUE
R222 1.2K
R221 1.2K
R220 1.2K
R219 47K (F)
C221 22/16
C220 22/16
C219 22/16
R215 1K
R214 2.7K (F)
TR208 2SA1317
C224 47/16
R211 1K
L208 33
L207 33
L206 18
R212 1.6K (F)
C223 0.1/25
C222 1200P
R218 390
R217 390
R216 390
C218 68P
C217 0.01
R213 1K
C216 68P
C162 0.47/50
R171 150K
C163 0.1 (M)
C164 0.1/50
C165 270P
C166 270P
C170 0.022
C171 47/16
R170 33K
R172 180K
C167 3.3/50
R174 3.9K
R175 13K
R169 47K
C168 0.1 (M)
R173 5.6K
C169 470P
C153 3.3/50
WP3
GND
AFC-H
TO MAIN (B)
PCB P601

WARNING: AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W
ALL CAPACITORS IN μF
ALL INDUCTORS IN μH
ALL DIODES ARE 1SS131

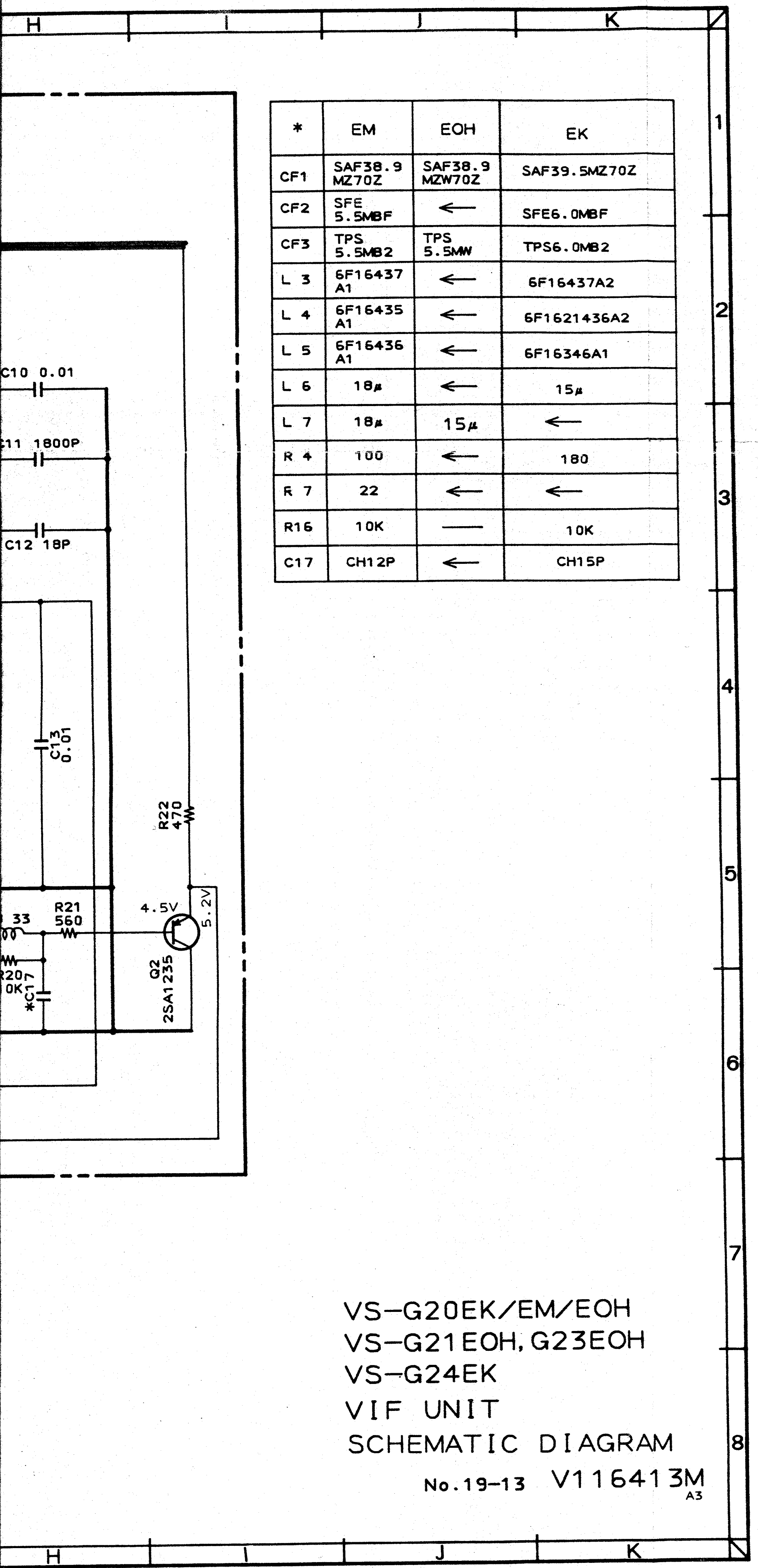
VS-G25EOG-V
VPST/PDC
SCHEMATIC DIAGRAM
No.19-12 V116412M A1


A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
8
IC1 M51496P
AF AMP
FM DET
ATT
LIM
AFT
VIF AMP
VIF AMP
LIM
VIDEO DET
RF AGC
IF AGC
B.NOISE INV.
4.9V
9.3V
9.3V
2.4V
2.4V
2.8V
4.7V
4.7V
3.6V
3.3V
5.6V
4.4V
4.9V
4.9V
2.7V
2.5V
3.6V
VR2 2K
A.OUT
R2 150
C4 2200P
R5 4.7K
L1 2.7
R3 470
C6 2200P
C5 2200P
1.0V
7.3V
0.3V
Q1 2SC2735J
*R4
R6 820
*R7
R1 22K
C8 22/16V
C7 0.01
R8 4.7K
*CF1
R50 6.8K
10K
VR51
RF AGC
C2 0.01
C1 0.22/50
C3 0.01
*L3
C101 82P
R12 5.6K
C10 0.01
C11 1800P
*L4
C102 88P
C12 18P
*R16
C103 33P
*L5
C13 0.01
C14 22P
*CF2
C15 22P
*L6
R24 1.5K
C16 2.2/50
R17 1.5K
R18 560
R19 390
*L7
L8 33
R207 10K
*C17
*CF3
R21 560
R22 470
4.5V
5.2V
Q2 2SA1235
CN1
7
6
5
4
3
2
1
AUDIO OUT
VCC (+9V)
IF IN
GND
VIDEO OUT
RF AGC OUT
AFT OUT
B (POWER SUPPLY) LINE
CF
CF
CF
L
L
L
L
L
L
R
R
R
C

VIF UNIT 6C02415C1

INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.
(WHEN A STATION IS TUNED)

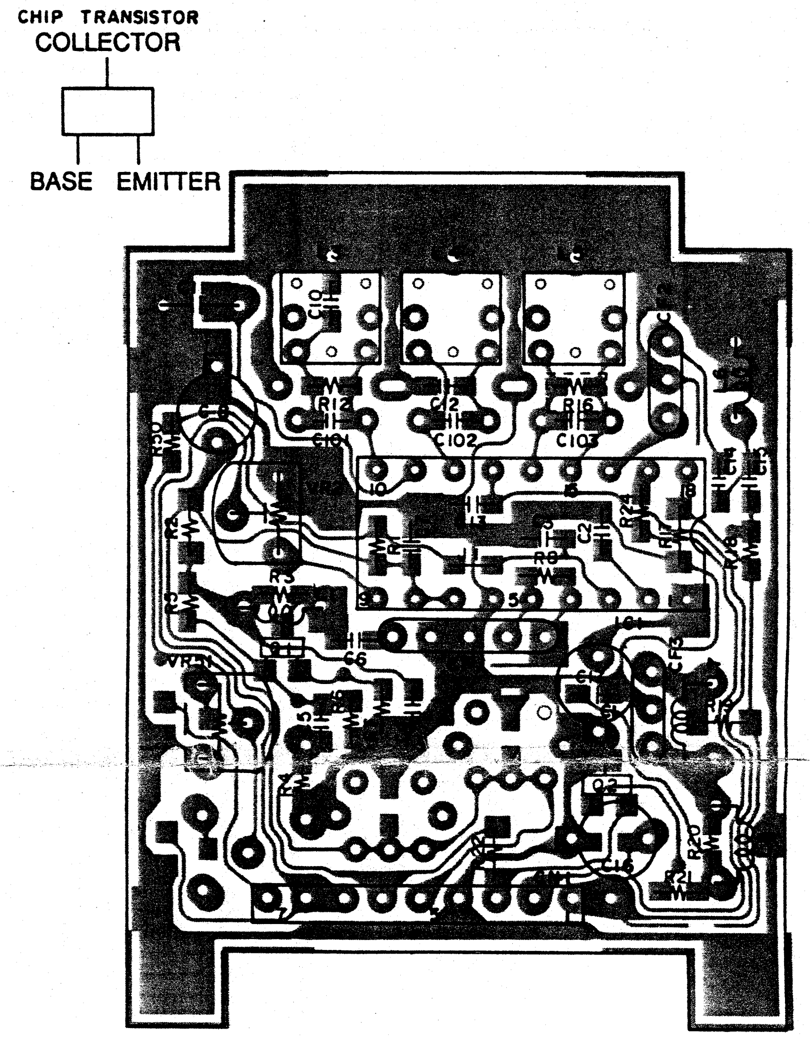
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN µF
ALL INDUCTORS IN µH (K)


H
I
J
K
1
2
3
4
5
6
7
8
C10 0.01
C11 1800P
C12 18P
C13 0.01
R22 470
5.2V
4.5V
R21 560
33
R20 10K
*C17
Q2 2SA1235

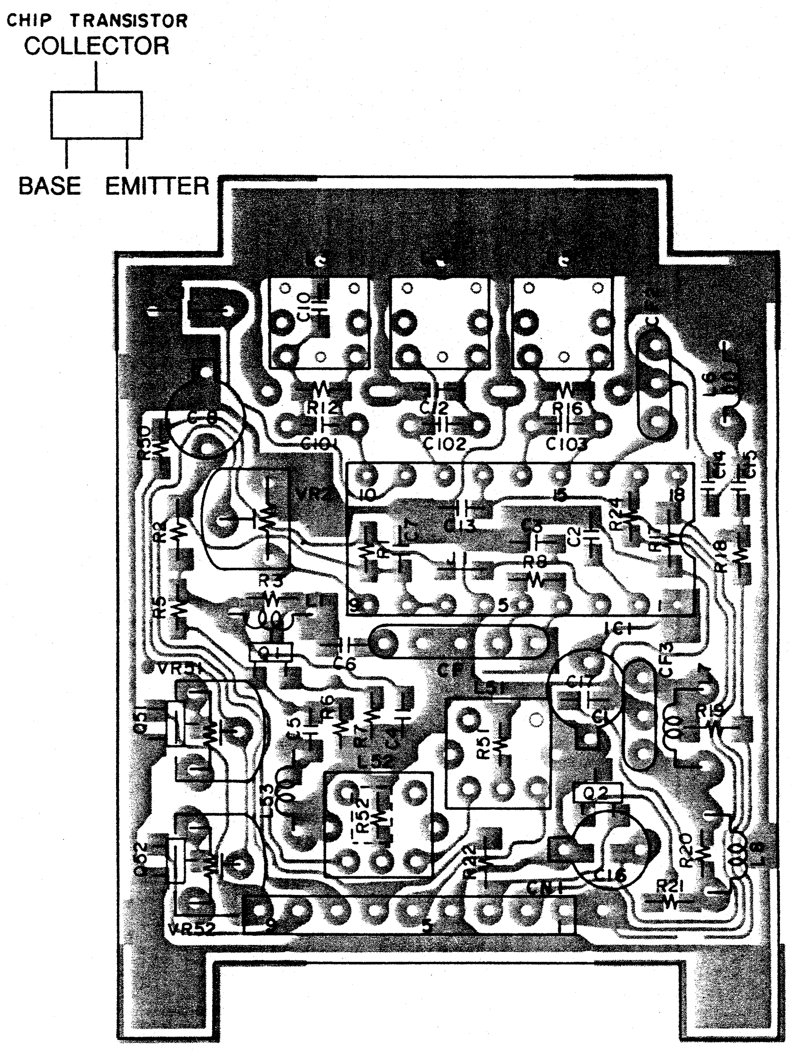
*	EM	EOH	EK
CF1	SAF38.9 MZ70Z	SAF38.9 MZW70Z	SAF39.5MZ70Z
CF2	SFE 5.5MBF	←	SFE6.0MBF
CF3	TPS 5.5MB2	TPS 5.5MW	TPS6.0MB2
L 3	6F16437 A1	←	6F16437A2
L 4	6F16435 A1	←	6F1621436A2
L 5	6F16436 A1	←	6F16346A1
L 6	18μ	←	15μ
L 7	18μ	15μ	←
R 4	100	←	180
R 7	22	←	←
R16	10K	—	10K
C17	CH12P	←	CH15P

VS-G20EK/EM/EOH
VS-G21EOH, G23EOH
VS-G24EK
VIF UNIT
SCHEMATIC DIAGRAM

No.19-13 V116413M
A3

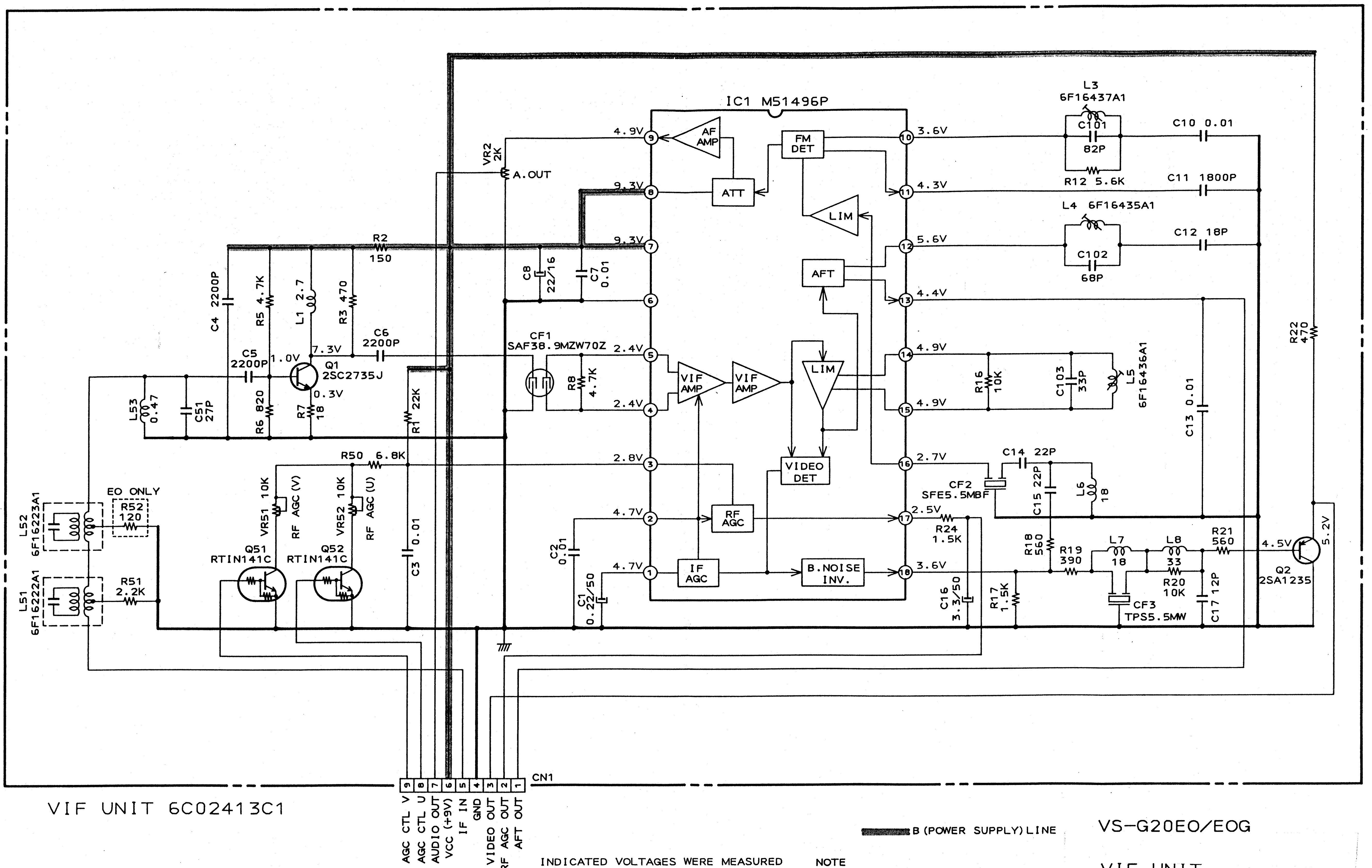

CHIP TRANSISTOR
COLLECTOR
BASE
EMITTER

VIF UNIT (EK,EM,EOH)
6C02415C1


CHIP TRANSISTOR
COLLECTOR
BASE
EMITTER

VIF UNIT (EO,EOG,EOG-V)
6C02413C1

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.


IC1 M51496P
AF AMP
FM DET
ATT
LIM
AFT
VIF AMP
VIF AMP
LIM
VIDEO DET
RF AGC
IF AGC
B.NOISE INV.
4.9V
9.3V
9.3V
2.4V
2.4V
2.8V
4.7V
4.7V
3.6V
4.3V
5.6V
4.4V
4.9V
4.9V
2.7V
2.5V
3.6V
VR2 2K
A.OUT
R2 150
C4 2200P
R5 4.7K
L1 2.7
R3 470
C6 2200P
C5 2200P
1.0V
7.3V
Q1 2SC2735J
0.3V
R6 820
R7 18
L53 0.47
C51 27P
C8 22/16
C7 0.01
CF1 SAF38.9MZW70Z
R8 4.7K
R1 22K
R50 6.8K
VR51 10K
RF AGC (V)
VR52 10K
RF AGC (U)
C3 0.01
EO ONLY
R52 120
L52 6F16223A1
R51 2.2K
L51 6F16222A1
Q51 RTIN141C
Q52 RTIN141C
C2 0.01
C1 0.22/50
L3 6F16437A1
C101 82P
R12 5.6K
C10 0.01
C11 1800P
L4 6F16435A1
C102 68P
C12 18P
R22 470
R16 10K
C103 33P
L5 6F16436A1
C13 0.01
C14 22P
CF2 SFE5.5MBF
C15 22P
L6 18
R24 1.5K
R18 560
R19 390
L7 18
L8 33
R21 560
4.5V
5.2V
Q2 2SA1235
R20 10K
C16 3.3/50
R17 1.5K
CF3 TPS5.5MW
C17 12P
CN1
9 AGC CTL V
8 AGC CTL U
7 AUDIO OUT
6 VCC (+9V)
5 IF IN
4 GND
3 VIDEO OUT
2 RF AGC OUT
1 AFT OUT

VIF UNIT 6C02413C1

▬ B (POWER SUPPLY) LINE

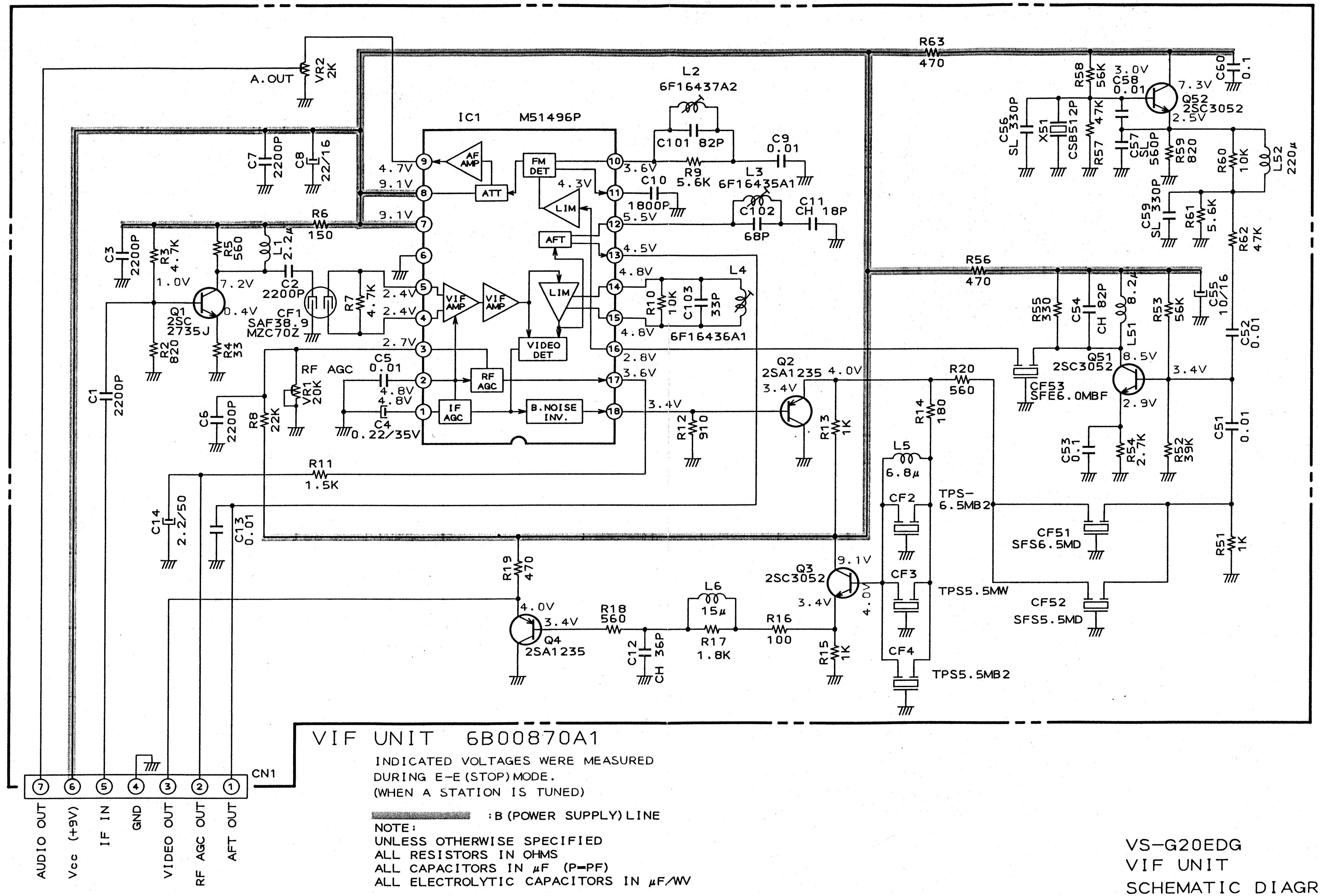
VS-G20EO/EOG

INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.
(WHEN A STATION IS TUNED)

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTORS IN μH (K)

VIF UNIT
SCHEMATIC DIAGRAM

No.19-14 V116414M
A2


A.OUT
VR2 2K
IC1 M51496P
C7 2200P
C8 22/16
AF AMP
ATT
FM DET
LIM
AFT
VIF AMP
VIF AMP
VIDEO DET
RF AGC
IF AGC
B.NOISE INV.
L2 6F16437A2
C101 82P
R9 5.6K
C9 0.01
C10 1800P
L3 6F16435A1
C102 68P
C11 CH 18P
L4
R10 10K
C103 33P
6F16436A1
R6 150
C3 2200P
R3 4.7K
R5 560
L1 2.2μ
C2 2200P
CF1 SAF38.9 MZC70Z
R7 4.7K
Q1 2SC2735J
R2 820
R4 33
C1 2200P
C6 2200P
R8 22K
RF AGC
VR1 20K
C5 0.01
C4 0.22/35V
R11 1.5K
C14 2.2/50
C13 0.01
R12 910
Q2 2SA1235
R13 1K
R19 470
Q4 2SA1235
R18 560
C12 CH 36P
L6 15μ
R17 1.8K
R16 100
Q3 2SC3052
R15 1K
L5 6.8μ
CF2
CF3
CF4
TPS-6.5MB2
TPS5.5MW
TPS5.5MB2
R14 180
R20 560
R63 470
R56 470
R58 56K
C58 0.01
Q52 2SC3052
C60 0.1
C56 SL 330P
X51 CSB512P
R57 47K
C57 SL 560P
R59 820
R60 10K
L52 220μ
C59 SL 330P
R61 5.6K
R62 47K
R55 330
C54 CH 82P
L51 8.2μ
R53 56K
C55 10/16
C52 0.01
CF53 SFE6.0MBF
Q51 2SC3052
C53 0.1
R54 2.7K
R52 39K
C51 0.01
CF51 SFS6.5MD
CF52 SFS5.5MD
R51 1K
4.7V
9.1V
9.1V
2.4V
2.4V
2.7V
4.8V
4.8V
3.6V
4.3V
5.5V
4.5V
4.8V
4.8V
2.8V
3.6V
3.4V
1.0V
7.2V
0.4V
4.0V
3.4V
9.1V
3.4V
4.0V
4.0V
3.4V
3.0V
7.3V
2.5V
8.5V
3.4V
2.9V
CN1
⑦ AUDIO OUT
⑥ Vcc (+9V)
⑤ IF IN
④ GND
③ VIDEO OUT
② RF AGC OUT
① AFT OUT

VIF UNIT 6B00870A1

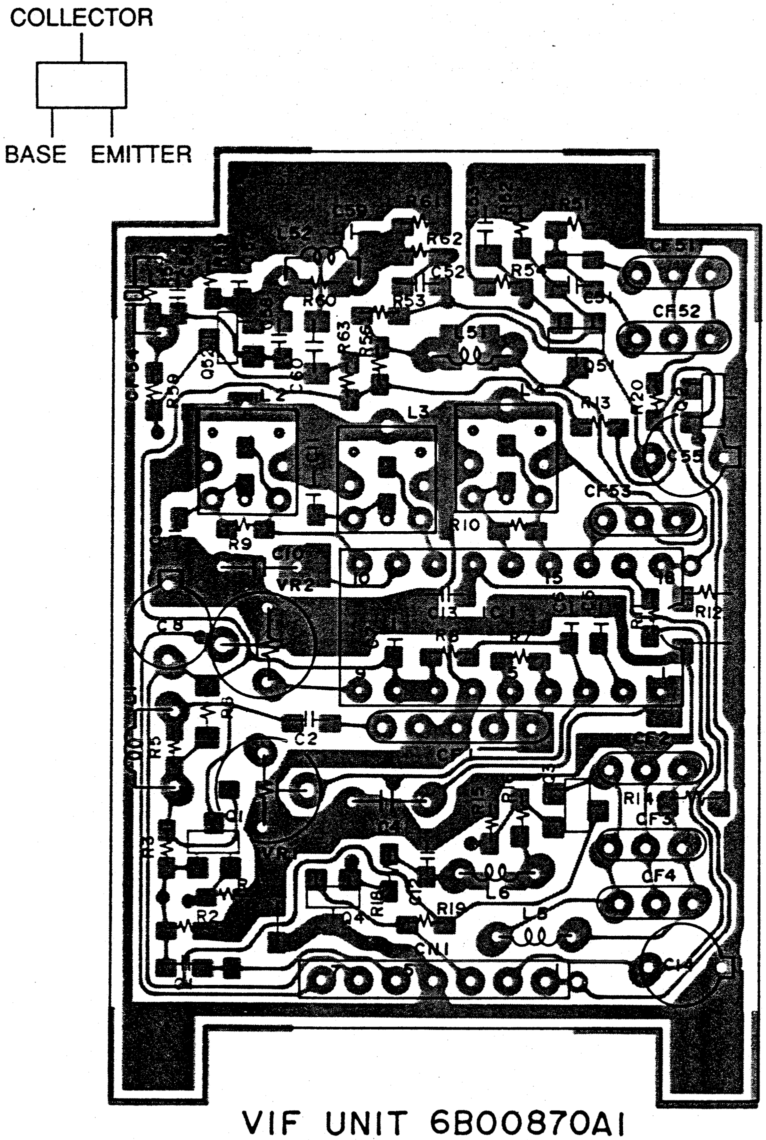
INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.
(WHEN A STATION IS TUNED)

▨ : B (POWER SUPPLY) LINE

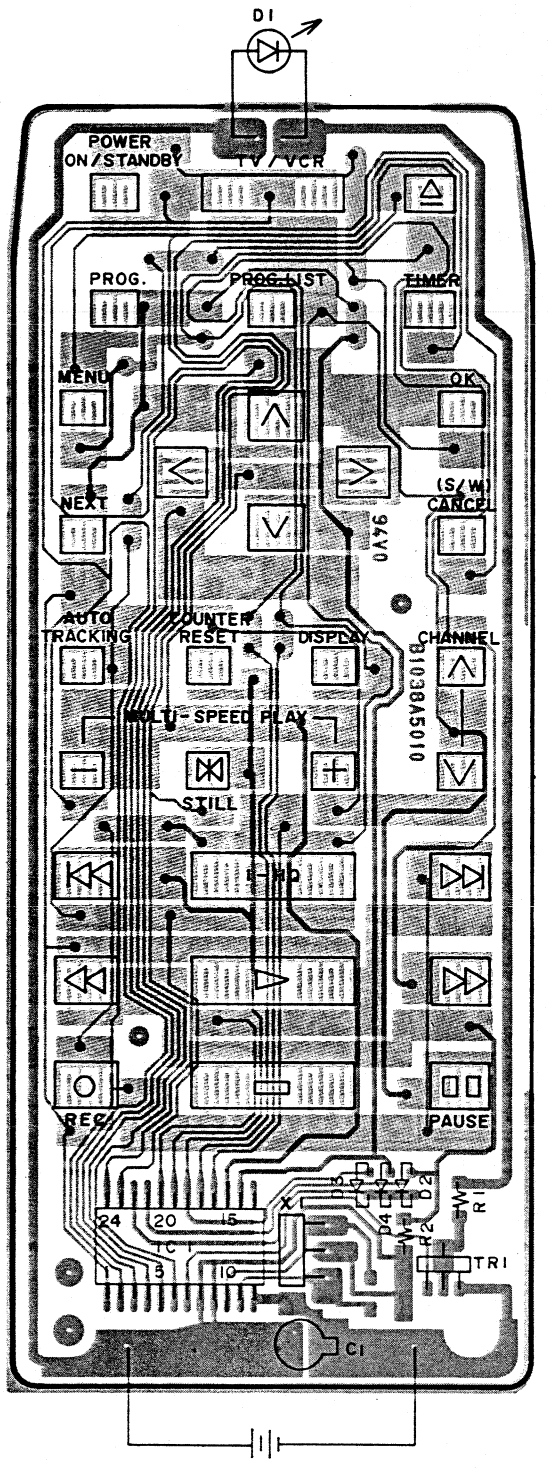
NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV

VS-G20EDG
VIF UNIT
SCHEMATIC DIAGRAM

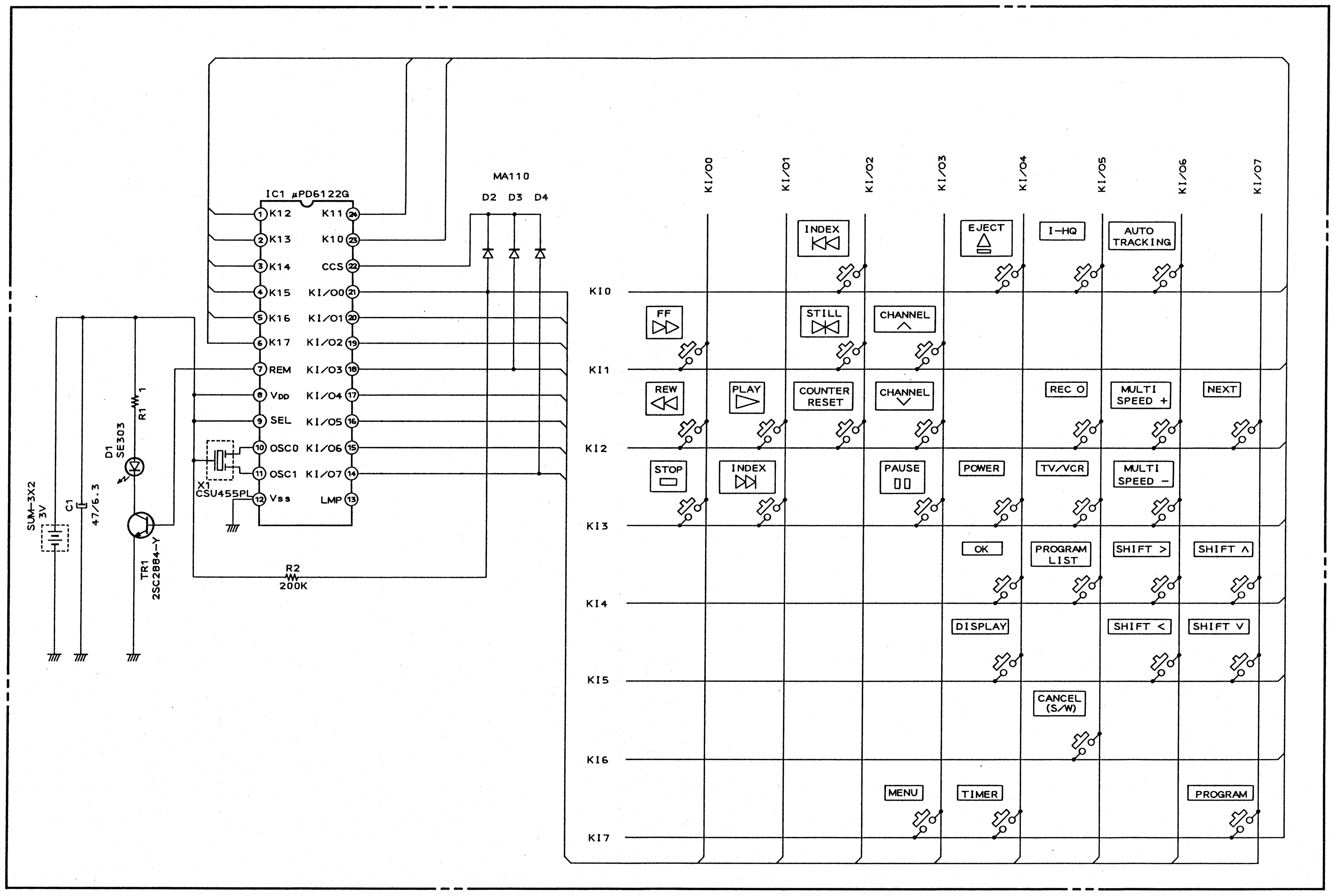
No.19-15 V116415M A3


COLLECTOR
BASE
EMITTER
L52
R61
R62
C52
R51
CF51
CF52
C51
R60
R53
L51
R63
Q52
C60
Q51
R13
R20
C55
L2
L3
CF53
R10
R9
C10
VR2
C13
IC1
R12
C8
R6
R7
C2
CF1
CF2
R14
CF3
CF4
Q1
VR1
L6
R18
R19
L8
C11
C14
R2
R5
R3

VIF UNIT 6B00870A1
(EDG ONLY)


D1
POWER
ON/STANDBY
TV/VCR
PROG.
PROG.LIST
TIMER
MENU
OK
NEXT
(S/W)
CANCEL
94V0
AUTO
TRACKING
COUNTER
RESET
DISPLAY
CHANNEL
B1038A5010
MULTI-SPEED PLAY
STILL
E-HQ
REC
PAUSE
24
20
15
IC1
1
5
10
X
D3
D4
D2
W1
R2
R1
TR1
C1
1.5 x 2

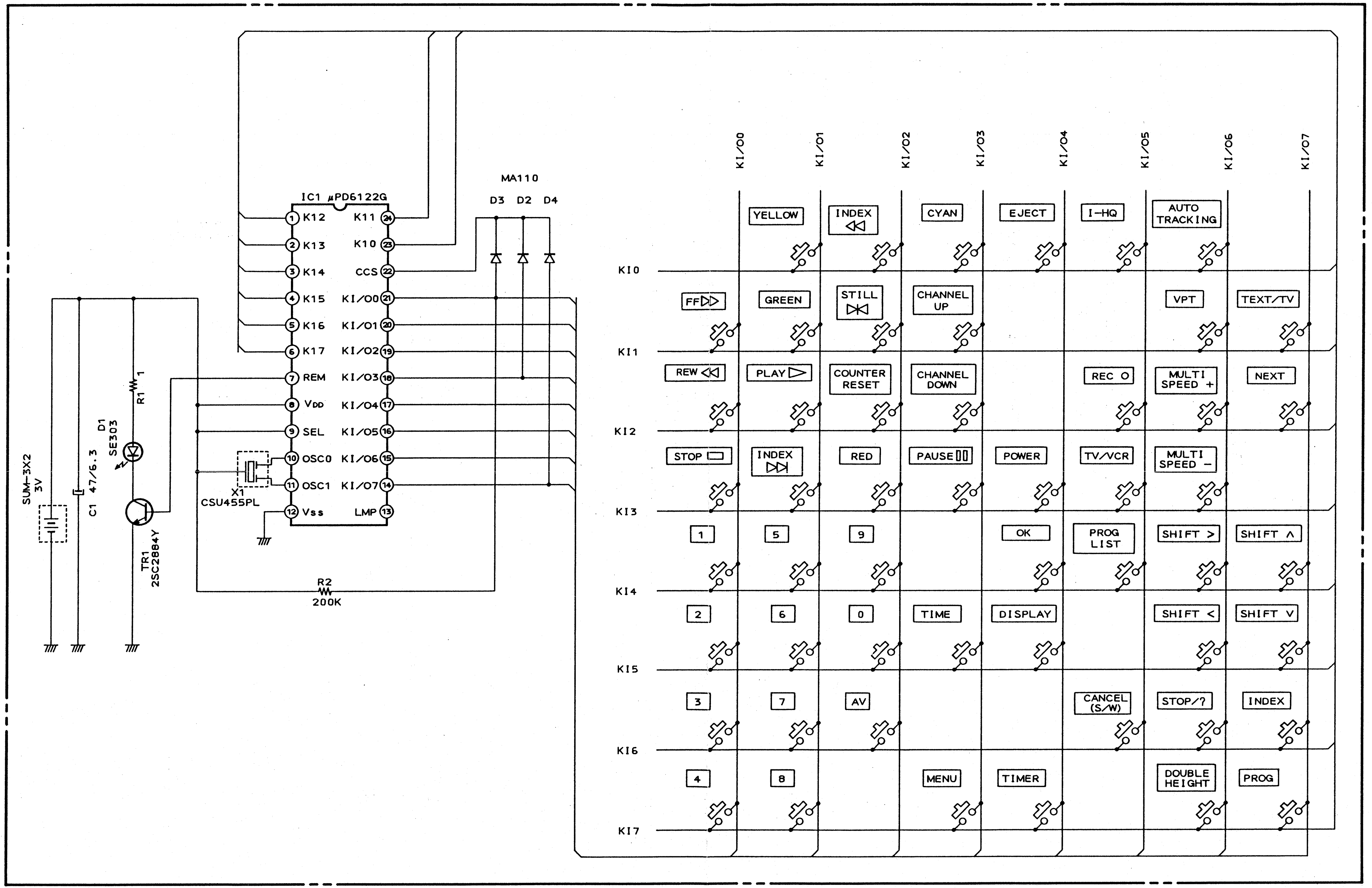
REMO-CON PCB B1038A5010


IC1 µPD6122G
1 K12
2 K13
3 K14
4 K15
5 K16
6 K17
7 REM
8 VDD
9 SEL
10 OSC0
11 OSC1
12 Vss
24 K11
23 K10
22 CCS
21 KI/O0
20 KI/O1
19 KI/O2
18 KI/O3
17 KI/O4
16 KI/O5
15 KI/O6
14 KI/O7
13 LMP
MA110
D2 D3 D4
R1 1
D1 SE303
TR1 2SC2884-Y
C1 47/6.3
SUM-3X2 3V
X1 CSU455PL
R2 200K
KI0
KI1
KI2
KI3
KI4
KI5
KI6
KI7
KI/O0
KI/O1
KI/O2
KI/O3
KI/O4
KI/O5
KI/O6
KI/O7
INDEX
EJECT
I-HQ
AUTO TRACKING
FF
STILL
CHANNEL ∧
REW
PLAY
COUNTER RESET
CHANNEL ∨
REC O
MULTI SPEED +
NEXT
STOP
INDEX
PAUSE
POWER
TV/VCR
MULTI SPEED −
OK
PROGRAM LIST
SHIFT >
SHIFT ∧
DISPLAY
SHIFT <
SHIFT V
CANCEL (S/W)
MENU
TIMER
PROGRAM

REMO-CON PCB B1038A5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN µF

RC-V250E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No.19-16 B103801M
A2

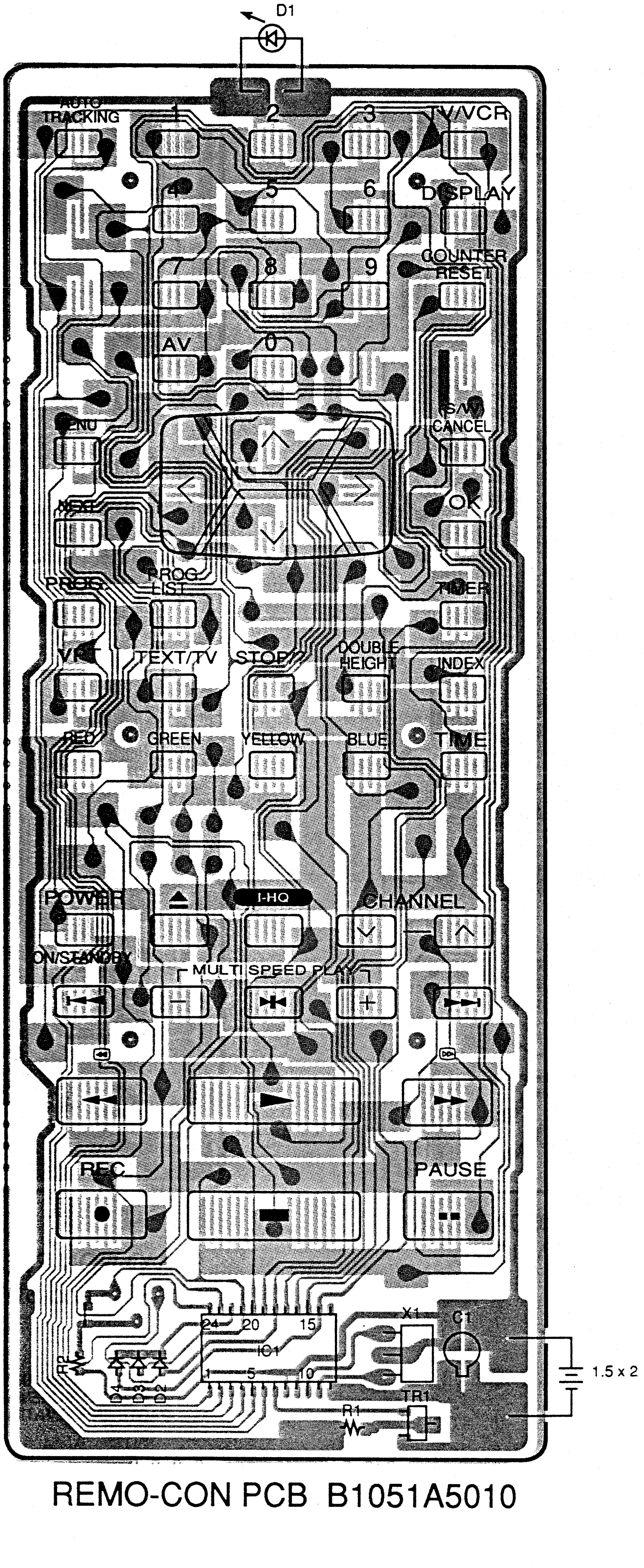

IC1 µPD6122G
K12
K13
K14
K15
K16
K17
REM
VDD
SEL
OSC0
OSC1
Vss
K11
K10
CCS
KI/O0
KI/O1
KI/O2
KI/O3
KI/O4
KI/O5
KI/O6
KI/O7
LMP
MA110
D3 D2 D4
SUM-3X2 3V
C1 47/6.3
D1 SE303
R1 1
TR1 2SC2884Y
X1 CSU455PL
R2 200K
KI0
KI1
KI2
KI3
KI4
KI5
KI6
KI7
YELLOW
INDEX ◁◁
CYAN
EJECT
I-HQ
AUTO TRACKING
FF ▷▷
GREEN
STILL
CHANNEL UP
VPT
TEXT/TV
REW ◁◁
PLAY ▷
COUNTER RESET
CHANNEL DOWN
REC ○
MULTI SPEED +
NEXT
STOP
INDEX ▷▷
RED
PAUSE
POWER
TV/VCR
MULTI SPEED −
1
5
9
OK
PROG LIST
SHIFT >
SHIFT ∧
2
6
0
TIME
DISPLAY
SHIFT <
SHIFT ∨
3
7
AV
CANCEL (S/W)
STOP/?
INDEX
4
8
MENU
TIMER
DOUBLE HEIGHT
PROG

REMO-CON PCB B1051A5010

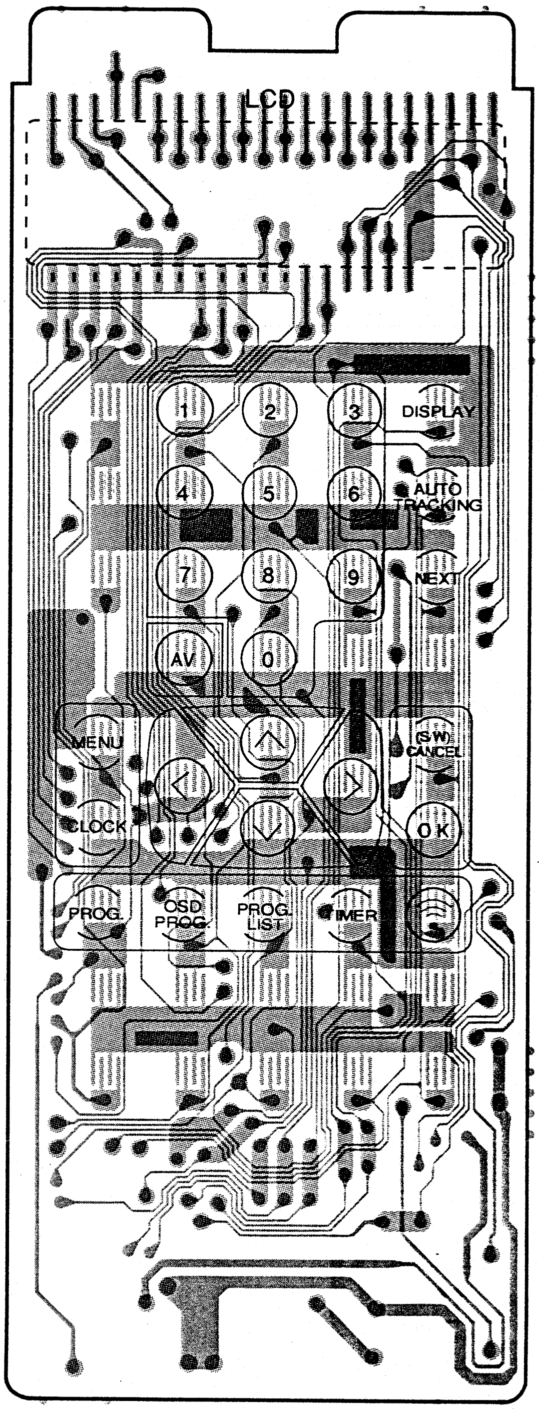
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)

RC-W201G
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM

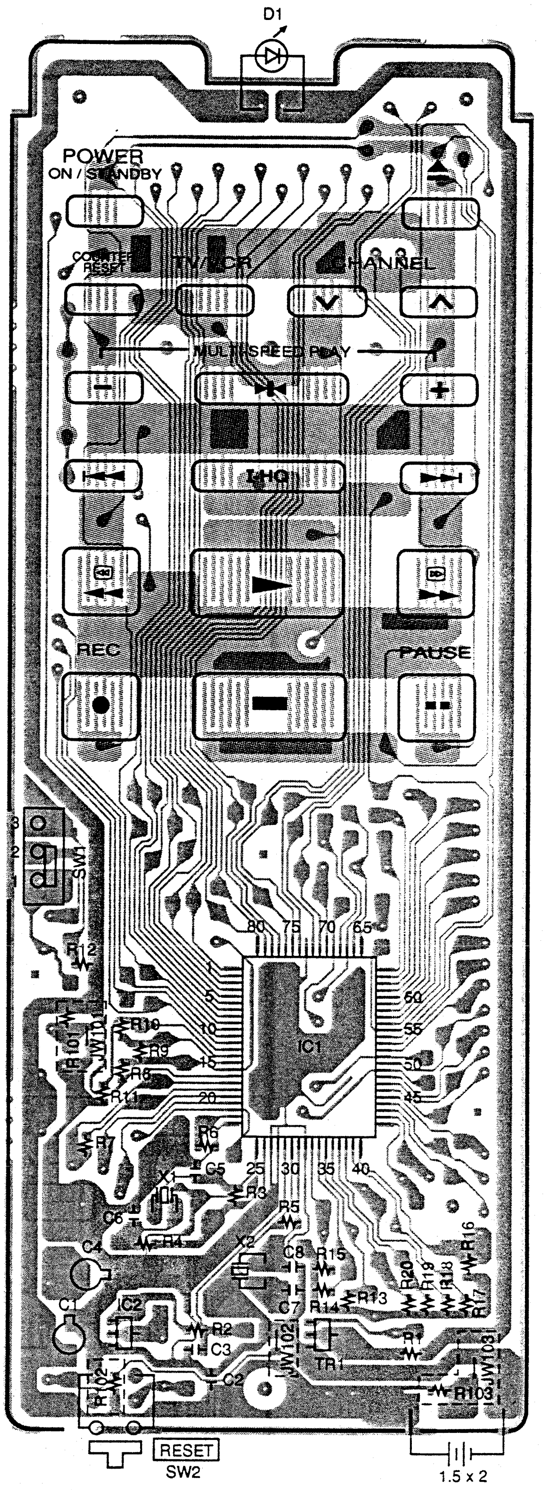
No.19-17 B105101M
A2


D1
AUTO TRACKING
1
2
3
TV/VCR
4
5
6
DISPLAY
7
8
9
COUNTER RESET
AV
0
MENU
S/W CANCEL
NEXT
OK
PROG.
PROG. LIST
TIMER
VPS
TEXT/TV
STOP/?
DOUBLE HEIGHT
INDEX
RED
GREEN
YELLOW
BLUE
TIME
POWER
I-HQ
CHANNEL
ON/STANDBY
MULTI SPEED PLAY
REC
PAUSE
24
20
15
IC1
1
5
10
X1
C1
R2
D4
D3
D2
R1
TR1
1.5 x 2

REMO-CON PCB B1051A5010

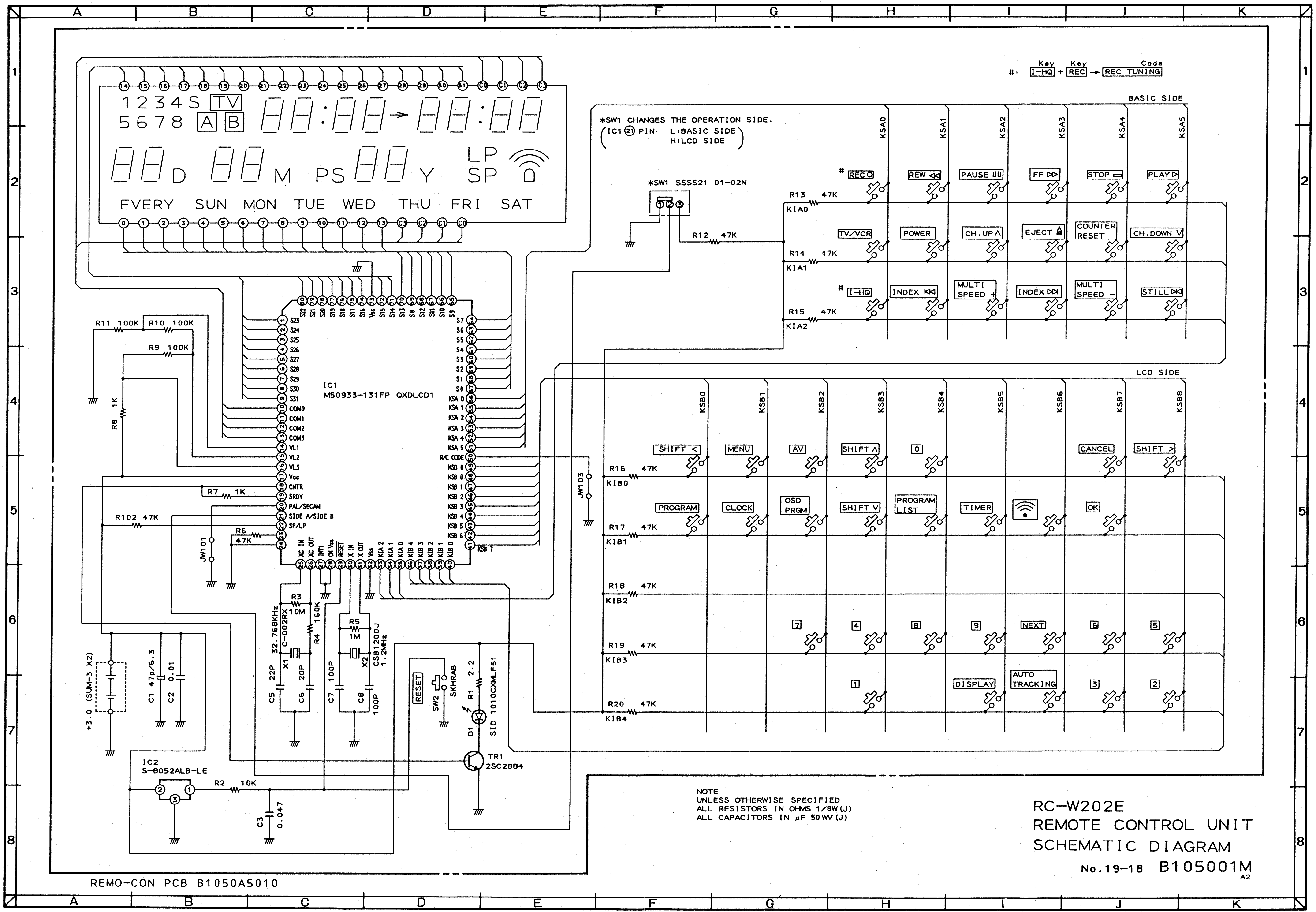

LCD
1
2
3
DISPLAY
4
5
6
AUTO TRACKING
7
8
9
NEXT
AV
0
MENU
(SW) CANCEL
CLOCK
OK
PROG.
OSD PROG.
PROG. LIST
TIMER

REMO-CON PCB B1050A5010 (J1)
(SWITCH LOCATION)


D1
POWER
ON / STANDBY
COUNTER RESET
TV/VCR
CHANNEL
MULTI SPEED PLAY
REC
PAUSE
SW1
1
2
3
IC1
80
75
70
65
1
5
10
15
20
25
30
35
40
45
50
55
60
R12
R101
JW101
R10
R9
R8
R11
R7
R6
X1
C5
R3
C6
R4
C4
X2
C8
R15
R5
C7
R14
R13
R20
R19
R18
R17
R16
C1
IC2
R2
C3
JW102
TR1
R1
JW103
R102
C2
R103
RESET
SW2
1.5 x 2

REMO-CON PCB B1050A5010 (J1)
(PARTS and SWITCH LOCATION)

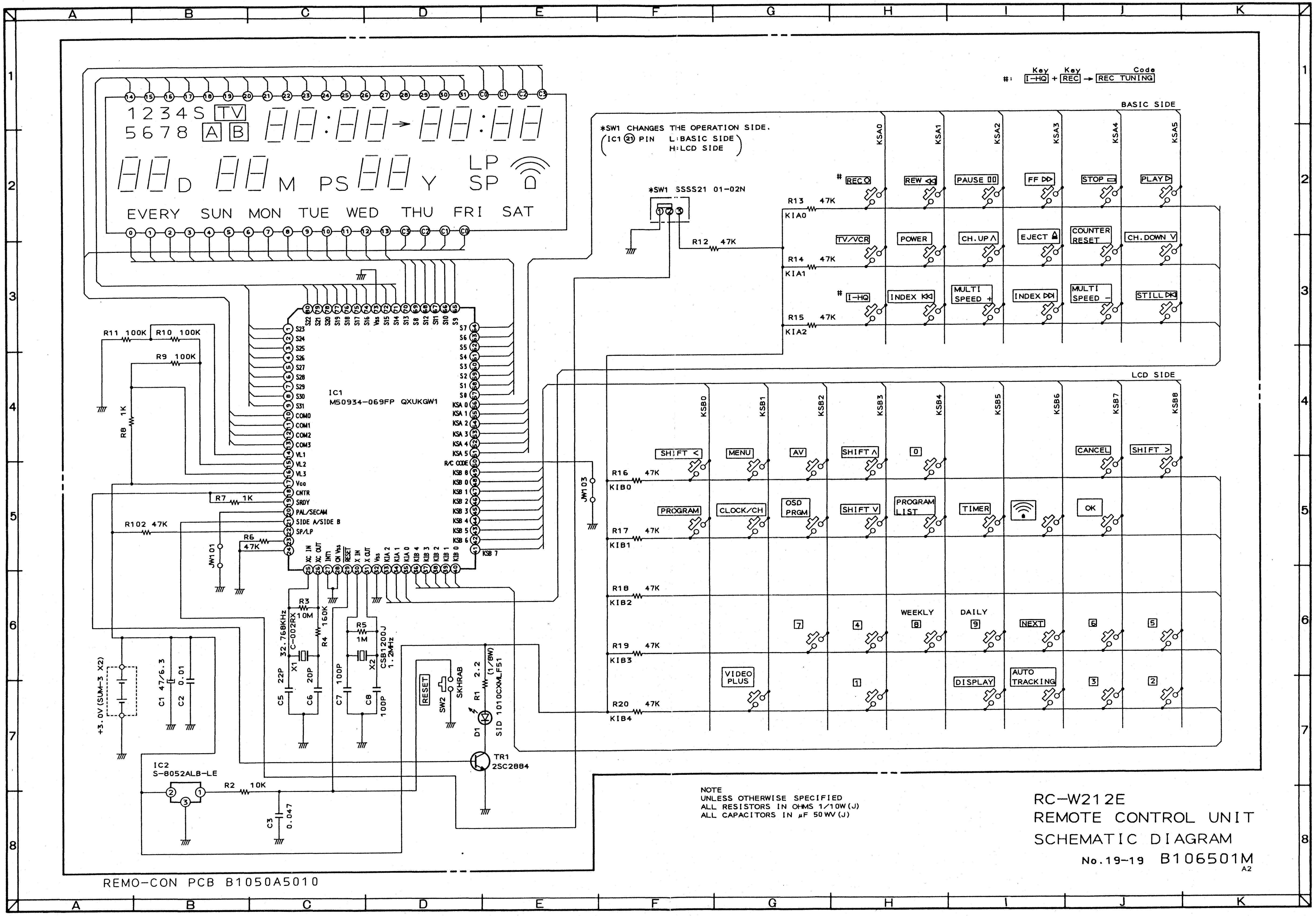
NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.


A B C D E F G H I J K
1 2 3 4 5 6 7 8
12345 TV
5678 A B
D M PS Y LP SP
EVERY SUN MON TUE WED THU FRI SAT
IC1
M50933-131FP QXDLCD1
S22 S21 S20 S19 S18 S17 S16 Vss S15 S14 S13 S8 S12 S11 S10 S9
S23 S24 S25 S26 S27 S28 S29 S30 S31 COM0 COM1 COM2 COM3 VL1 VL2 VL3 Vcc CNTR SRDY PAL/SECAM SIDE A/SIDE B SP/LP
S7 S6 S5 S4 S3 S2 S1 S0 KSA 0 KSA 1 KSA 2 KSA 3 KSA 4 KSA 5 R/C CODE KSB 8 KSB 0 KSB 1 KSB 2 KSB 3 KSB 4 KSB 5 KSB 6 KSB 7
XC IN XC OUT INT1 CN Vss RESET X IN X OUT Vss KIA 2 KIA 1 KIA 0 KIB 4 KIB 3 KIB 2 KIB 1 KIB 0
R11 100K
R10 100K
R9 100K
R8 1K
R7 1K
R102 47K
R6 47K
JW101
JW103
R3 10M
R4 160K
R5 1M
32.768KHz C-002RX X1
CSB1200J 1.2MHz X2
C5 22P
C6 20P
C7 100P
C8 100P
RESET
SW2 SKHRAB
R1 2.2
D1 SID 1010CXMLF51
TR1 2SC2884
+3.0 (SUM-3 X2)
C1 47µ/6.3
C2 0.01
IC2
S-8052ALB-LE
R2 10K
C3 0.047
*SW1 CHANGES THE OPERATION SIDE.
(IC1 ㉑ PIN L:BASIC SIDE H:LCD SIDE)
*SW1 SSSS21 01-02N
R12 47K
#: Key I-HQ + Key REC → Code REC TUNING
BASIC SIDE
KSA0 KSA1 KSA2 KSA3 KSA4 KSA5
R13 47K KIA0
R14 47K KIA1
R15 47K KIA2
# REC
REW ◁◁
PAUSE ▯▯
FF ▷▷
STOP ▭
PLAY ▷
TV/VCR
POWER
CH.UP ∧
EJECT ⏏
COUNTER RESET
CH.DOWN ∨
# I-HQ
INDEX ◁◁
MULTI SPEED +
INDEX ▷▷
MULTI SPEED −
STILL ▷▯
LCD SIDE
KSB0 KSB1 KSB2 KSB3 KSB4 KSB5 KSB6 KSB7 KSB8
R16 47K KIB0
R17 47K KIB1
R18 47K KIB2
R19 47K KIB3
R20 47K KIB4
SHIFT <
MENU
AV
SHIFT ∧
0
CANCEL
SHIFT >
PROGRAM
CLOCK
OSD PRGM
SHIFT ∨
PROGRAM LIST
TIMER
OK
7 4 8 9
NEXT
6 5
1
DISPLAY
AUTO TRACKING
3 2

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN µF 50WV (J)

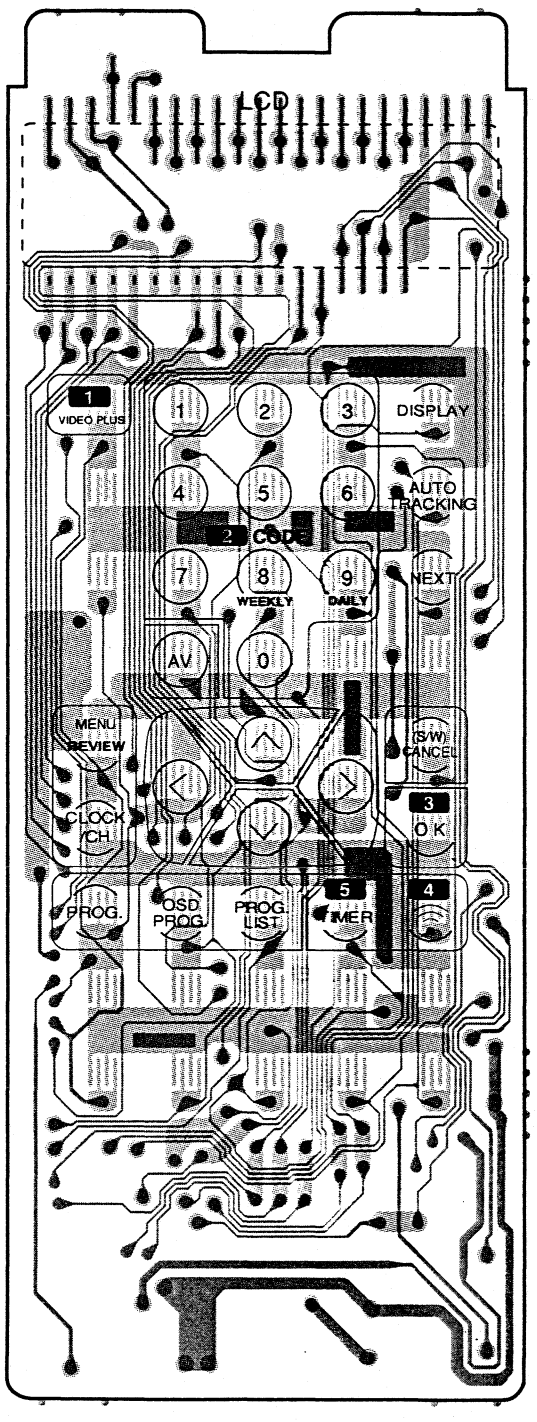
RC-W202E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No.19-18 B105001M
A2

REMO-CON PCB B1050A5010

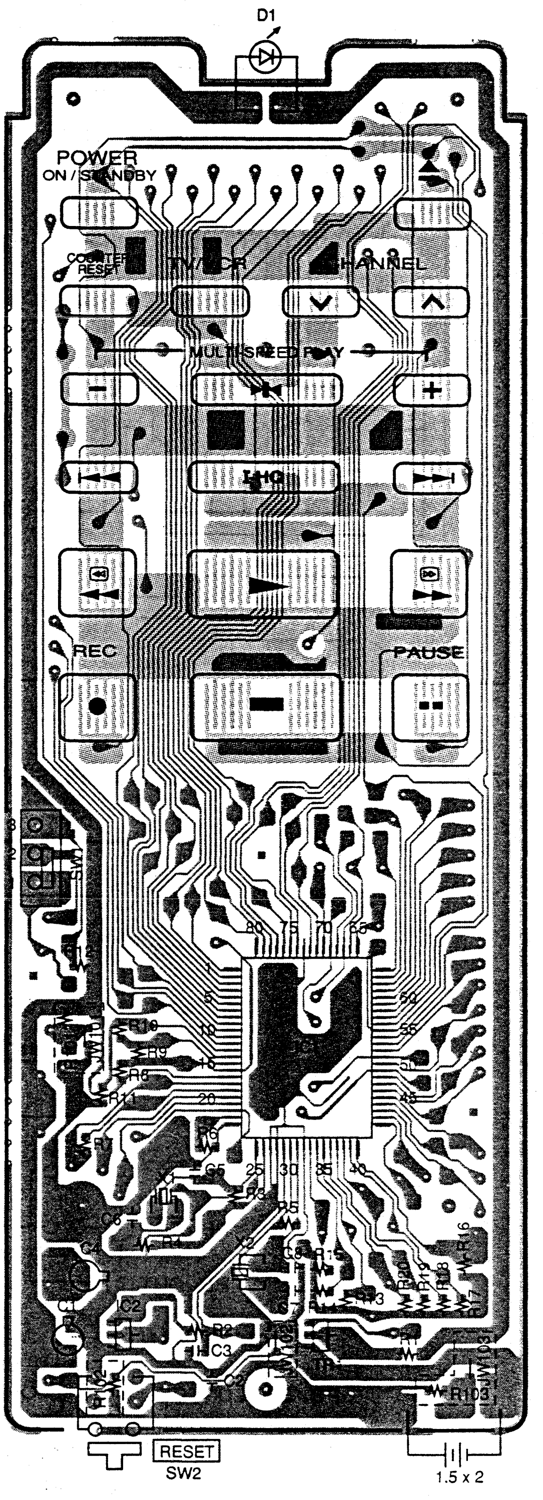

A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
1 2 3 4 S TV
5 6 7 8 A B
D M PS Y
LP
SP
EVERY SUN MON TUE WED THU FRI SAT
IC1
M50934-069FP QXUKGW1
R11 100K
R10 100K
R9 100K
R8 1K
R7 1K
R102 47K
R6 47K
JW101
JW103
R3 10M
R4 160K
R5 1M
X1 32.768KHz C-002RX
X2 CSB1200J 1.2MHz
C5 22P
C6 20P
C7 100P
C8 100P
C1 47/6.3
C2 0.01
+3.0V (SUM-3 X2)
IC2
S-8052ALB-LE
R2 10K
C3 0.047
RESET
SW2 SKHRAB
R1 2.2 (1/8W)
D1 SID 1010CXMLF51
TR1
2SC2884
*SW1 CHANGES THE OPERATION SIDE.
(IC1 ㉑ PIN L:BASIC SIDE
H:LCD SIDE)
*SW1 SSSS21 01-02N
R12 47K
R13 47K
R14 47K
R15 47K
KIA0
KIA1
KIA2
#: Key I-HQ + Key REC → Code REC TUNING
BASIC SIDE
KSA0
KSA1
KSA2
KSA3
KSA4
KSA5
# REC
REW ◁◁
PAUSE ▯▯
FF ▷▷
STOP ▭
PLAY ▷
TV/VCR
POWER
CH.UP ∧
EJECT ≜
COUNTER RESET
CH.DOWN ∨
# I-HQ
INDEX ⏮
MULTI SPEED +
INDEX ⏭
MULTI SPEED −
STILL ▷|
LCD SIDE
KSB0
KSB1
KSB2
KSB3
KSB4
KSB5
KSB6
KSB7
KSB8
R16 47K
R17 47K
R18 47K
R19 47K
R20 47K
KIB0
KIB1
KIB2
KIB3
KIB4
SHIFT <
MENU
AV
SHIFT ∧
0
CANCEL
SHIFT >
PROGRAM
CLOCK/CH
OSD PRGM
SHIFT ∨
PROGRAM LIST
TIMER
OK
WEEKLY
DAILY
7
4
8
9
NEXT
6
5
VIDEO PLUS
1
DISPLAY
AUTO TRACKING
3
2
REMO-CON PCB B1050A5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/10W (J)
ALL CAPACITORS IN µF 50WV (J)

RC-W212E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No.19-19 B106501M
A2


LCD
1
VIDEO PLUS
1
2
3
DISPLAY
4
5
6
AUTO TRACKING
2
CODE
7
8
9
NEXT
WEEKLY
DAILY
AV
0
MENU REVIEW
(S/W) CANCEL
CLOCK /CH
3
OK
PROG.
OSD PROG.
PROG. LIST
5
TIMER
4

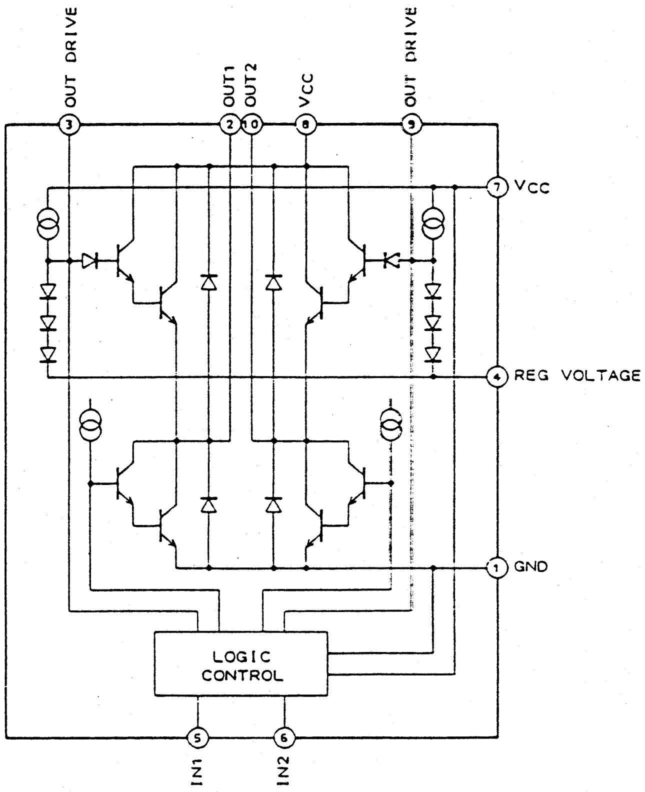
REMO-CON PCB B1050A5010 (J1)
(SWITCH LOCATION)


D1
POWER
ON / STANDBY
COUNTER RESET
TV/VCR
CHANNEL
MULTI-SPEED PLAY
REC
PAUSE
SW1
80
75
70
65
1
5
10
15
20
25
30
35
40
45
50
55
60
R10
R9
R8
R11
R7
R6
C5
R3
R5
C6
R4
C1
IC2
R2
C3
C2
R15
R13
R16
R17
R18
R19
R20
R1
R103
RESET
SW2
1.5 x 2

REMO-CON PCB B1050A5010 (J1)
(PARTS and SWITCH LOCATION)

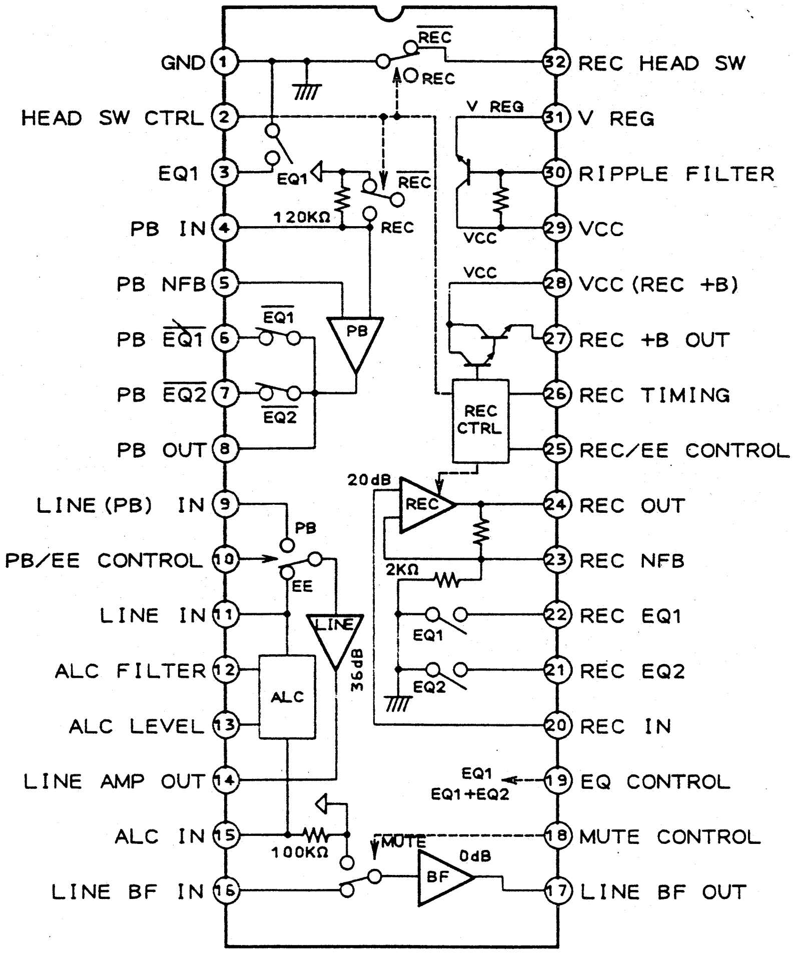
NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

BA6229 (BI-DIRECTIONAL MOTOR DRIVE)


OUT DRIVE
3
OUT1
OUT2
2
10
VCC
8
OUT DRIVE
9
7 Vcc
4 REG VOLTAGE
1 GND
LOGIC CONTROL
5
6
IN1
IN2

INPUT		OUTPUT		MODE
⑤	⑥	②	⑩	
H	H	L	L	BRAKE
L	H	L	H	CASSETTE & TAPE LOADING
H	L	H	L	CASSETTE & TAPE UNLOADING
L	L	OPEN	OPEN	STOP

BA7765AS (AUDIO SIGNAL REC/PB AMPLIFIER)


GND 1
HEAD SW CTRL 2
EQ1 3
PB IN 4
PB NFB 5
PB $\overline{EQ1}$ 6
PB $\overline{EQ2}$ 7
PB OUT 8
LINE (PB) IN 9
PB/EE CONTROL 10
LINE IN 11
ALC FILTER 12
ALC LEVEL 13
LINE AMP OUT 14
ALC IN 15
LINE BF IN 16
32 REC HEAD SW
31 V REG
30 RIPPLE FILTER
29 VCC
28 VCC (REC +B)
27 REC +B OUT
26 REC TIMING
25 REC/EE CONTROL
24 REC OUT
23 REC NFB
22 REC EQ1
21 REC EQ2
20 REC IN
19 EQ CONTROL
18 MUTE CONTROL
17 LINE BF OUT
$\overline{REC}$
REC
V REG
EQ1
120KΩ
VCC
PB
$\overline{EQ1}$
$\overline{EQ2}$
REC CTRL
20dB
REC
2KΩ
EQ1
EQ2
PB
EE
LINE
36dB
ALC
EQ1
EQ1+EQ2
MUTE
100KΩ
0dB
BF

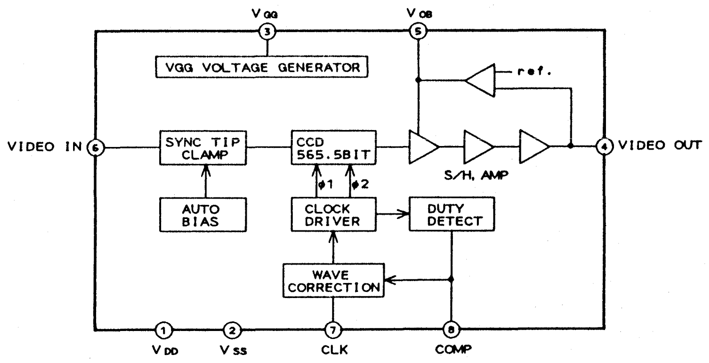
CF72307 (TELETEXT DECODER)

PIN No.	PORT NAME	I/O	FUNCTION
1	FIELD	O	Programmable output polarity of a 25 Hz output signal synchronized either with CSYNC or SLVHVSYNC input field sync pulses to produce a non-interlaced display.
2	DCSYNC	O	Digital composite sync output.
3	CSYNCIN	I	Active low composite sync.
4	TACW	I	Teletext aquisition window.
5	TUM	I	Test pin. (Must be grounded in normal application.)
6	OSCOUT	O	13.875 MHz crystal oscillator output.
7	OSCIN	I	13.875 MHz crystal oscillator input. (OSCIN must be grounded if the 13.875 MHz clock of the dataslicer is connected to CLKIN.)
8	DVCC1	I	Power supply for digital logic. (5 V ± 5 %)
9	CLKIN	I	13.875 MHz system clock input for digital logic.
10	DGND2	–	Ground terminal for digital logic.
11	TDATA	I	Teletext data from dataslicer.
12	TCLOCK	I	Teletext clock from dataslicer.
13	DGND1	–	Ground terminal for digital logic.
14	AVCC1	I	Power supply for analogue logic. (5 V ± 5 %)
15	BLANK	O	Picture blanking signal (active high).
16	BLUE	O	Blue output (active high).
17	AGND1	–	Ground terminal for analogue logic.
18	GREEN	O	Green output (active high).
19	AGND2	–	Ground terminal for analogue logic.
20	RED	O	Red output (active high).
21	AGND3	–	Ground terminal for analogue logic.
22	RGBSET	I/O	A current, determind by a resistor defines the output high level on the RGB pins.
23	REF	I/O	Reference voltage output for the RGB output drivers.
24	AVCC2	I	Power supply for analogue logic. (5 V ± 5 %)
25	VIDEOIN	I	Composite video signal input.
26	ACSYNC	O	Analogue output of sync switch.
27	TEST	I	Test pin. (Must be grounded in normal application.)
28	BIAS	I	Bias definition pin. (BIAS should be grounded if the on chip oscillator is not used.)
29	$\overline{\text{RESET}}$	I	Power on reset signal input (active low).
30	TRC	I	Test pin. (Must be grounded in normal application.)
31	TGST		
32	TGMT		
33	SLVHSYNC	I	Programmable active low or high H-sync input. (In slave sync mode, it locks the horizontal display timing to this signal.)
34	SLVHVSYNC	I	Programmable active low or high V-sync input. (In slave sync mode, it locks the vertical display timing to this signal.)
35	PWRDWN	I	Power down the IC in test mode.(Should be grounded in normal application.)
36	SDA	I/O	I^{2}C-bus serial data.
37	SCL	I/O	I^{2}C-bus serial data clock.
38	C1	I	Test pin. (Must be connected to +5 V in normal application.)
39	CO	I	
50	A0	O	DRAM row and column address.
46	A1		
43	A2		
41	A3		
40	A4		
42	A5		
45	A6		
48	A7		
51	A8		
54	A9		
44	DVCC2	I	Power supply for digital logic. (5 V ± 5 %)
47	DGND3	–	Ground terminal for digital logic.
49	DGND4	–	
52	VDD32	O	Output terminal of the 3.2 V power supply.
53	DVCC3	I	Power supply for digital logic. (5 V ± 5 %)
55	$\overline{\text{G}}$	O	DRAM output (active low).
56	$\overline{\text{RAS0}}$	O	DRAM row address strobe output.
57	$\overline{\text{CAS0}}$	O	DRAM column address strobe output.
58	$\overline{\text{W}}$	O	DRAM write command (active low).
62	D0	I/O	DRAM data.
60	D1		
59	D2		
61	D3		
63	$\overline{\text{RAS1}}$	O	DRAM row address strobe for memory bank zero.
64	$\overline{\text{CAS1}}$	O	DRAM column address strobe for memory bank one.

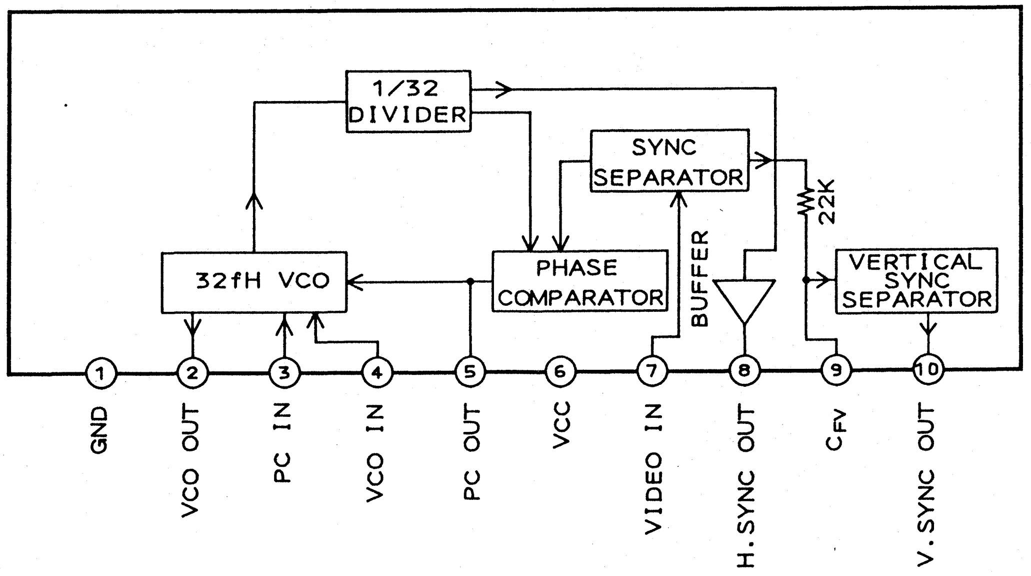
CF72306 (TELETEXT DATA SLICER)

PIN No.	PORT NAME	I/O	FUNCTION
1	TSIG	I	Video sync input 1
2	SSIG	I	Video sync input 2
3	CSIG	I	Video data input
4	AGND1	–	Analogue ground
5	OSC1	I	13.875 MHz oscillator
6	OSC2	I	13.875 MHz oscillator
7	AVCC	–	Analogue Vcc
8	CREF	I	Video data reference input
9	AGND2	–	Analogue ground
10	BIAS	I	Internal reference
11	TSTAPLB	I	Test/Application
12	TCLK	O	Teletext clock
13	TDATA	O	Teletext data
14	DGND2	–	Digital ground
15	OSCOUT	O	Oscillator output
16	DVCC	–	Digital Vcc
17	WIND	I	Timing signal
18	DGND1	–	Digital ground
19	SYNC	O	Separated sync output
20	SCANOUT	O	Test scan output

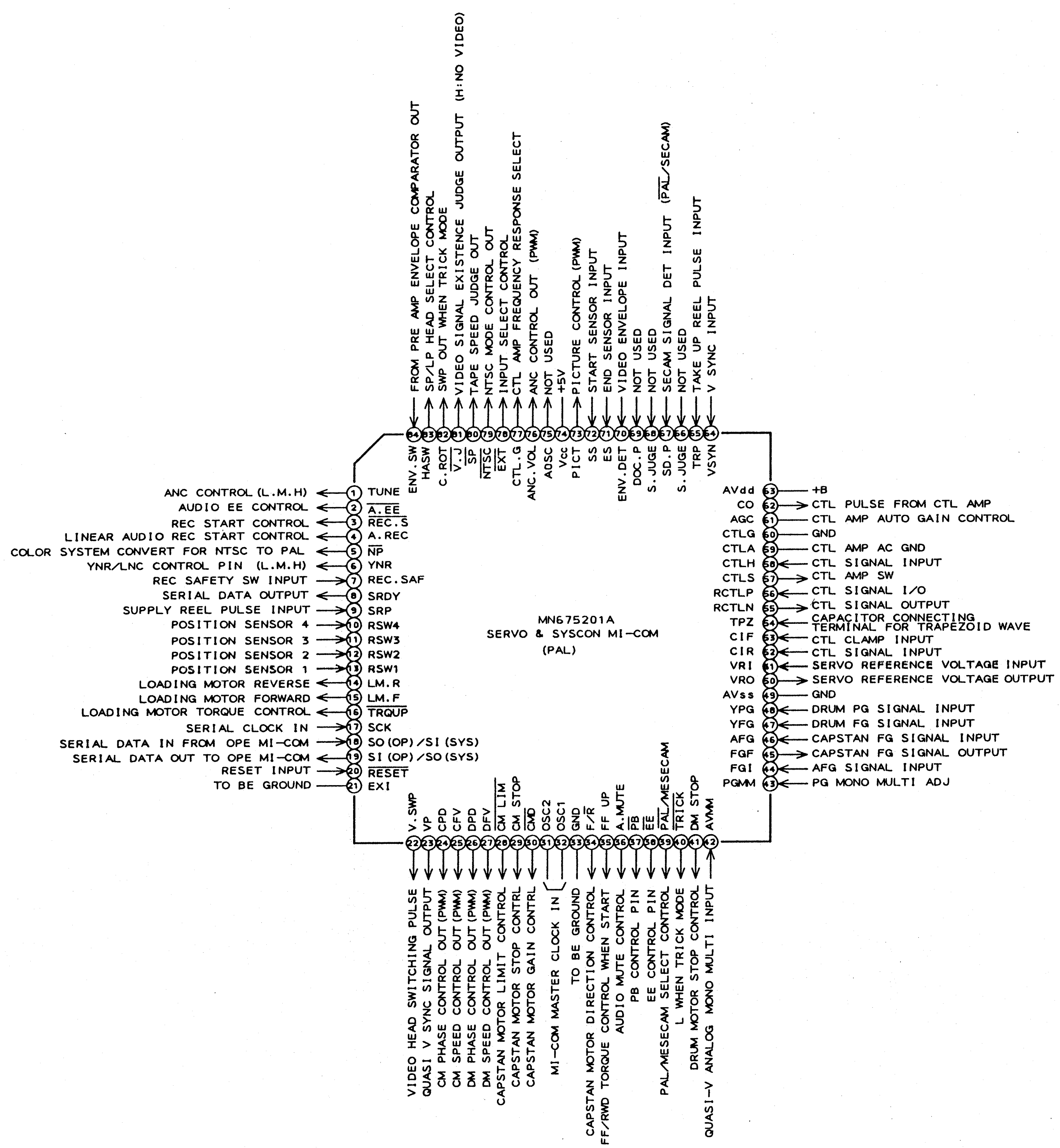
LC8992 (CCD 1H DELAY LINE)



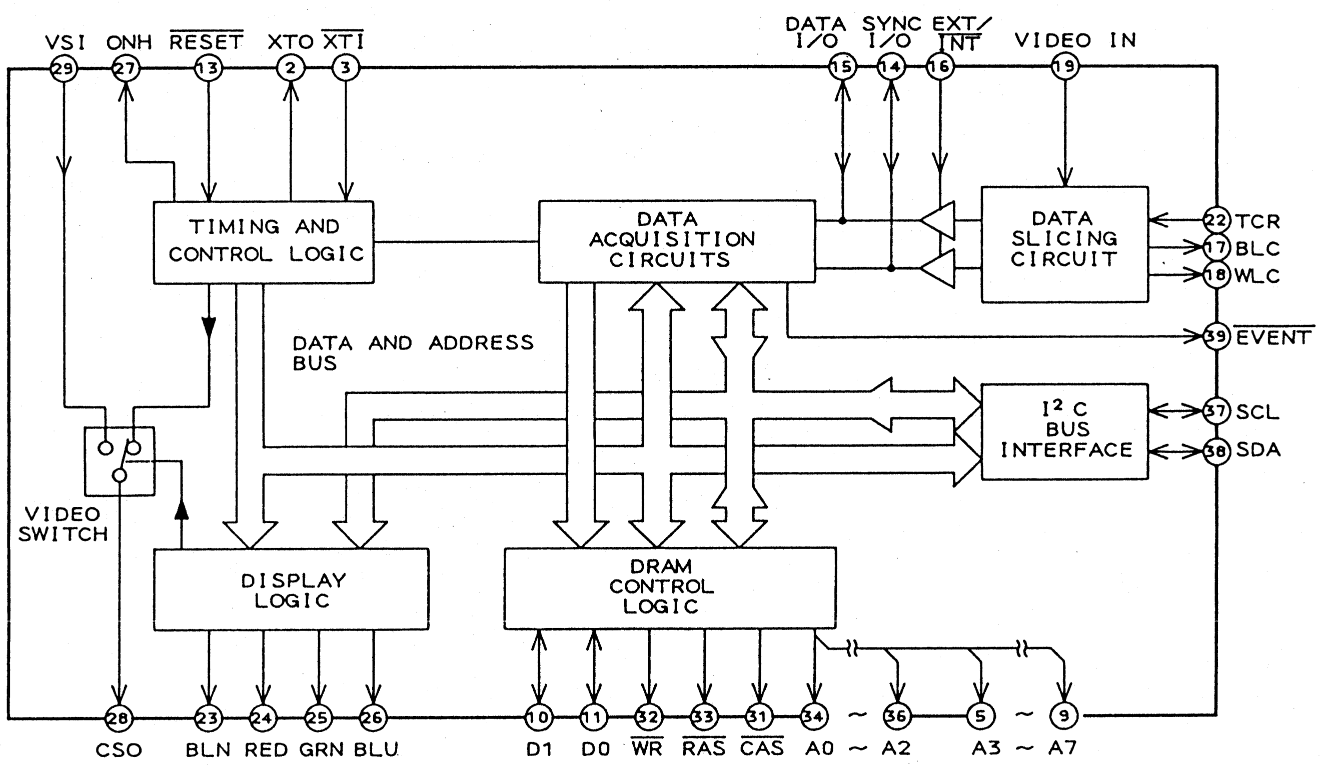
MM1068XS (SYNC SEPARATOR)



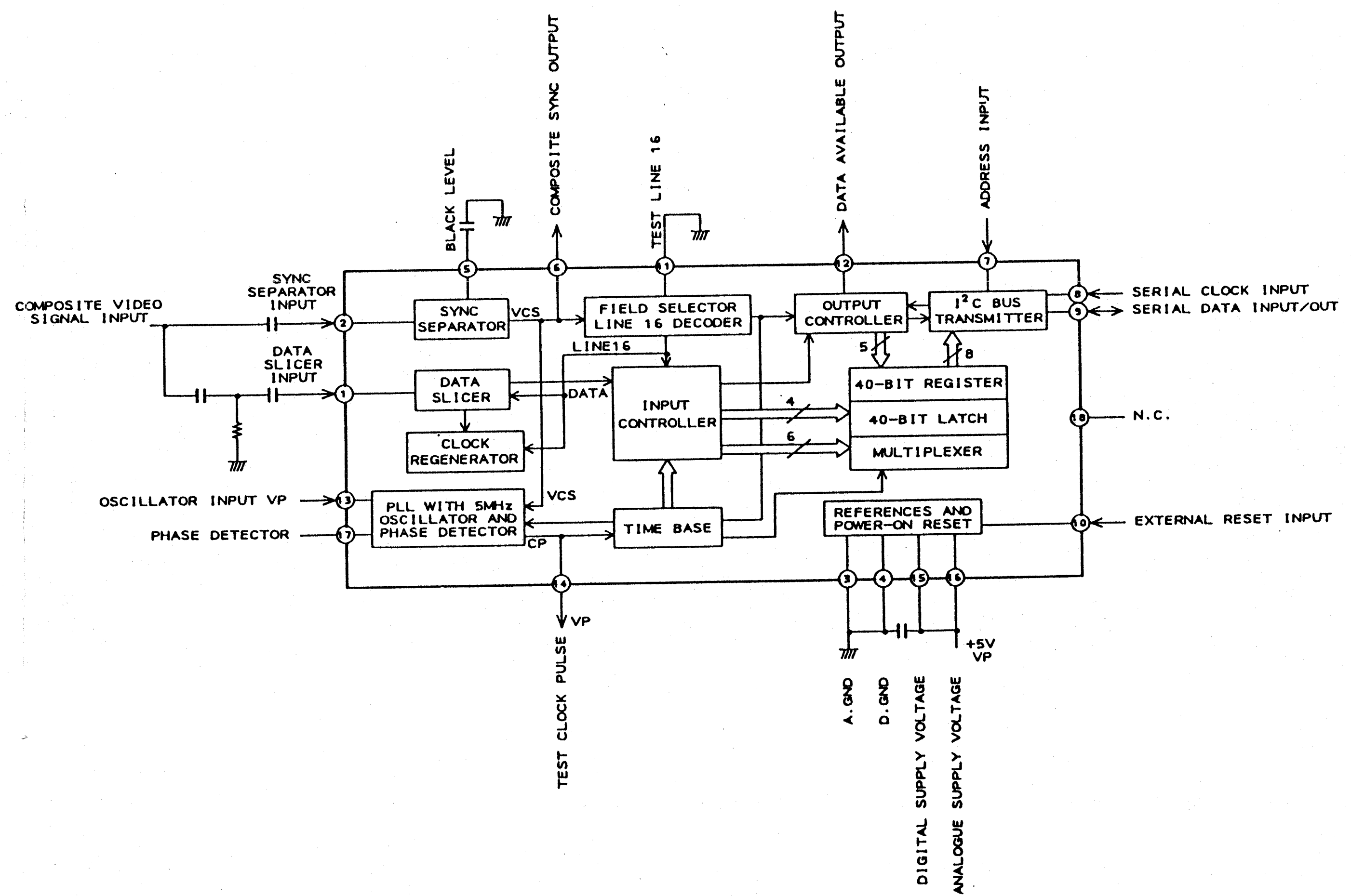
MN675201A (SERVO/SYSCON MI-COM)


MN675201A
SERVO & SYSCON MI-COM
(PAL)
ANC CONTROL (L.M.H) ① TUNE
AUDIO EE CONTROL ② A.EE
REC START CONTROL ③ REC.S
LINEAR AUDIO REC START CONTROL ④ A.REC
COLOR SYSTEM CONVERT FOR NTSC TO PAL ⑤ NP
YNR/LNC CONTROL PIN (L.M.H) ⑥ YNR
REC SAFETY SW INPUT ⑦ REC.SAF
SERIAL DATA OUTPUT ⑧ SRDY
SUPPLY REEL PULSE INPUT ⑨ SRP
POSITION SENSOR 4 ⑩ RSW4
POSITION SENSOR 3 ⑪ RSW3
POSITION SENSOR 2 ⑫ RSW2
POSITION SENSOR 1 ⑬ RSW1
LOADING MOTOR REVERSE ⑭ LM.R
LOADING MOTOR FORWARD ⑮ LM.F
LOADING MOTOR TORQUE CONTROL ⑯ TRQUP
SERIAL CLOCK IN ⑰ SCK
SERIAL DATA IN FROM OPE MI-COM ⑱ SO (OP)/SI (SYS)
SERIAL DATA OUT TO OPE MI-COM ⑲ SI (OP)/SO (SYS)
RESET INPUT ⑳ RESET
TO BE GROUND (21) EXI
(22) V.SWP VIDEO HEAD SWITCHING PULSE
(23) VP QUASI V SYNC SIGNAL OUTPUT
(24) CPD CM PHASE CONTROL OUT (PWM)
(25) CFV CM SPEED CONTROL OUT (PWM)
(26) DPD DM PHASE CONTROL OUT (PWM)
(27) DFV DM SPEED CONTROL OUT (PWM)
(28) CM LIM CAPSTAN MOTOR LIMIT CONTROL
(29) CM STOP CAPSTAN MOTOR STOP CONTRL
(30) CMD CAPSTAN MOTOR GAIN CONTRL
(31) OSC2, (32) OSC1 MI-COM MASTER CLOCK IN
(33) GND TO BE GROUND
(34) F/R CAPSTAN MOTOR DIRECTION CONTROL
(35) FF UP FF/RWD TORQUE CONTROL WHEN START
(36) A.MUTE AUDIO MUTE CONTROL
(37) PB PB CONTROL PIN
(38) EE EE CONTROL PIN
(39) PAL/MESECAM PAL/MESECAM SELECT CONTROL
(40) TRICK L WHEN TRICK MODE
(41) DM STOP DRUM MOTOR STOP CONTROL
(42) AVMM QUASI-V ANALOG MONO MULTI INPUT
PGMM (43) PG MONO MULTI ADJ
FGI (44) AFG SIGNAL INPUT
FGF (45) CAPSTAN FG SIGNAL OUTPUT
AFG (46) CAPSTAN FG SIGNAL INPUT
YFG (47) DRUM FG SIGNAL INPUT
YPG (48) DRUM PG SIGNAL INPUT
AVss (49) GND
VRO (50) SERVO REFERENCE VOLTAGE OUTPUT
VRI (51) SERVO REFERENCE VOLTAGE INPUT
CIR (52) CTL SIGNAL INPUT
CIF (53) CTL CLAMP INPUT
TPZ (54) CAPACITOR CONNECTING TERMINAL FOR TRAPEZOID WAVE
RCTLN (55) CTL SIGNAL OUTPUT
RCTLP (56) CTL SIGNAL I/O
CTLS (57) CTL AMP SW
CTLH (58) CTL SIGNAL INPUT
CTLA (59) CTL AMP AC GND
CTLG (60) GND
AGC (61) CTL AMP AUTO GAIN CONTROL
CO (62) CTL PULSE FROM CTL AMP
AVdd (63) +B
(64) VSYN V SYNC INPUT
(65) TRP TAKE UP REEL PULSE INPUT
(66) S.JUGE NOT USED
(67) SD.P SECAM SIGNAL DET INPUT (PAL/SECAM)
(68) S.JUGE NOT USED
(69) DOC.P NOT USED
(70) ENV.DET VIDEO ENVELOPE INPUT
(71) ES END SENSOR INPUT
(72) SS START SENSOR INPUT
(73) PICT PICTURE CONTROL (PWM)
(74) Vcc +5V
(75) ADSC NOT USED
(76) ANC.VOL ANC CONTROL OUT (PWM)
(77) CTL.G CTL AMP FREQUENCY RESPONSE SELECT
(78) EXT INPUT SELECT CONTROL
(79) NTSC NTSC MODE CONTROL OUT
(80) SP TAPE SPEED JUDGE OUT
(81) V.J VIDEO SIGNAL EXISTENCE JUDGE OUTPUT (H:NO VIDEO)
(82) C.ROT SWP OUT WHEN TRICK MODE
(83) HASW SP/LP HEAD SELECT CONTROL
(84) ENV.SW FROM PRE AMP ENVELOPE COMPARATOR OUT

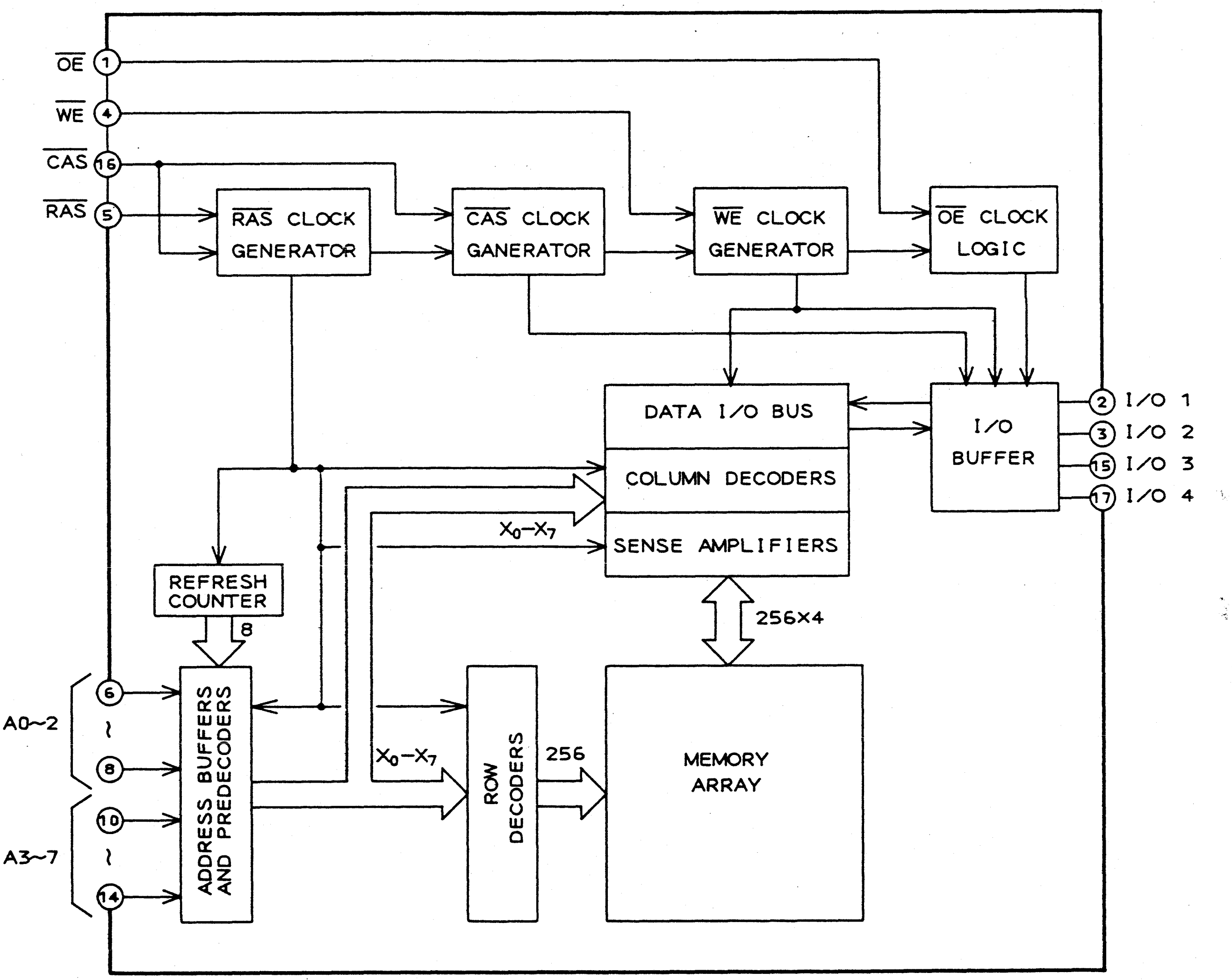
MV1815 (TELETEXT FOR 625 LINE OPERATION)


VSI (29)
ONH (27)
RESET (13)
XTO (2)
XTI (3)
DATA I/O (15)
SYNC I/O (14)
EXT/INT (16)
VIDEO IN (19)
TIMING AND CONTROL LOGIC
DATA ACQUISITION CIRCUITS
DATA SLICING CIRCUIT
(22) TCR
(17) BLC
(18) WLC
(39) EVENT
DATA AND ADDRESS BUS
I²C BUS INTERFACE
(37) SCL
(38) SDA
VIDEO SWITCH
DISPLAY LOGIC
DRAM CONTROL LOGIC
(28) CSO
(23) BLN
(24) RED
(25) GRN
(26) BLU
(10) D1
(11) D0
(32) WR
(33) RAS
(31) CAS
(34) A0 ~ (36) A2
(5) A3 ~ (9) A7

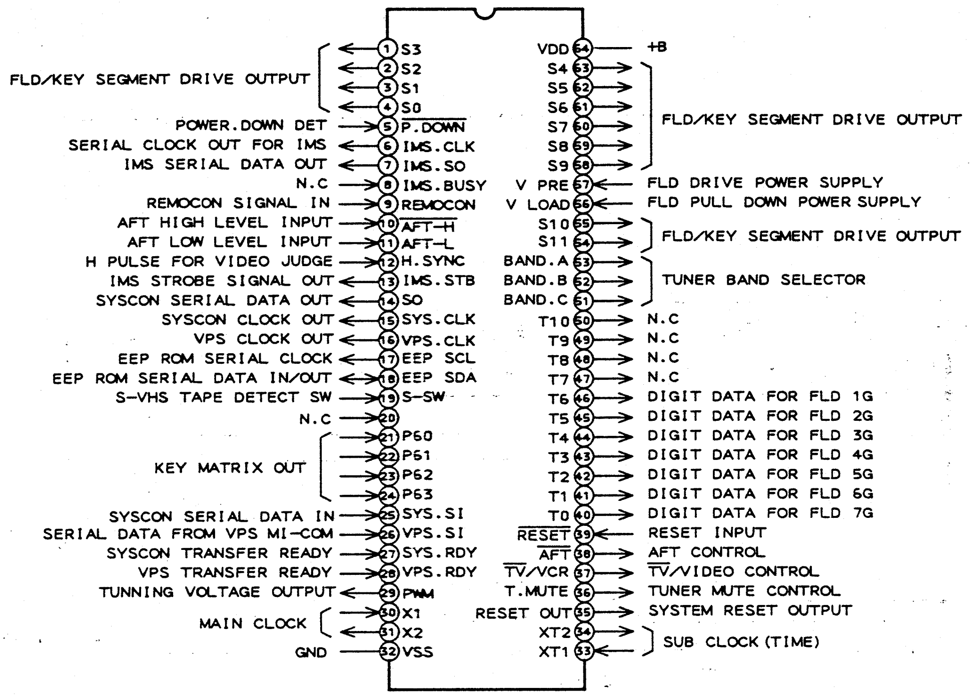
SAA4700 (VPS DATA LINE PROCESSOR)


BLACK LEVEL (5)
COMPOSITE SYNC OUTPUT (6)
TEST LINE 16 (11)
DATA AVAILABLE OUTPUT (12)
ADDRESS INPUT (7)
COMPOSITE VIDEO SIGNAL INPUT
SYNC SEPARATOR INPUT (2)
DATA SLICER INPUT (1)
SYNC SEPARATOR
VCS
FIELD SELECTOR LINE 16 DECODER
LINE16
OUTPUT CONTROLLER
I²C BUS TRANSMITTER
5
8
SERIAL CLOCK INPUT (8)
SERIAL DATA INPUT/OUT (9)
DATA SLICER
DATA
CLOCK REGENERATOR
INPUT CONTROLLER
4
6
40-BIT REGISTER
40-BIT LATCH
MULTIPLEXER
(18) N.C.
OSCILLATOR INPUT VP (13)
PHASE DETECTOR (17)
PLL WITH 5MHz OSCILLATOR AND PHASE DETECTOR
VCS
CP
TIME BASE
REFERENCES AND POWER-ON RESET
(10) EXTERNAL RESET INPUT
(14) VP
TEST CLOCK PULSE
(3) A.GND
(4) D.GND
(15) DIGITAL SUPPLY VOLTAGE
(16) ANALOGUE SUPPLY VOLTAGE
+5V VP

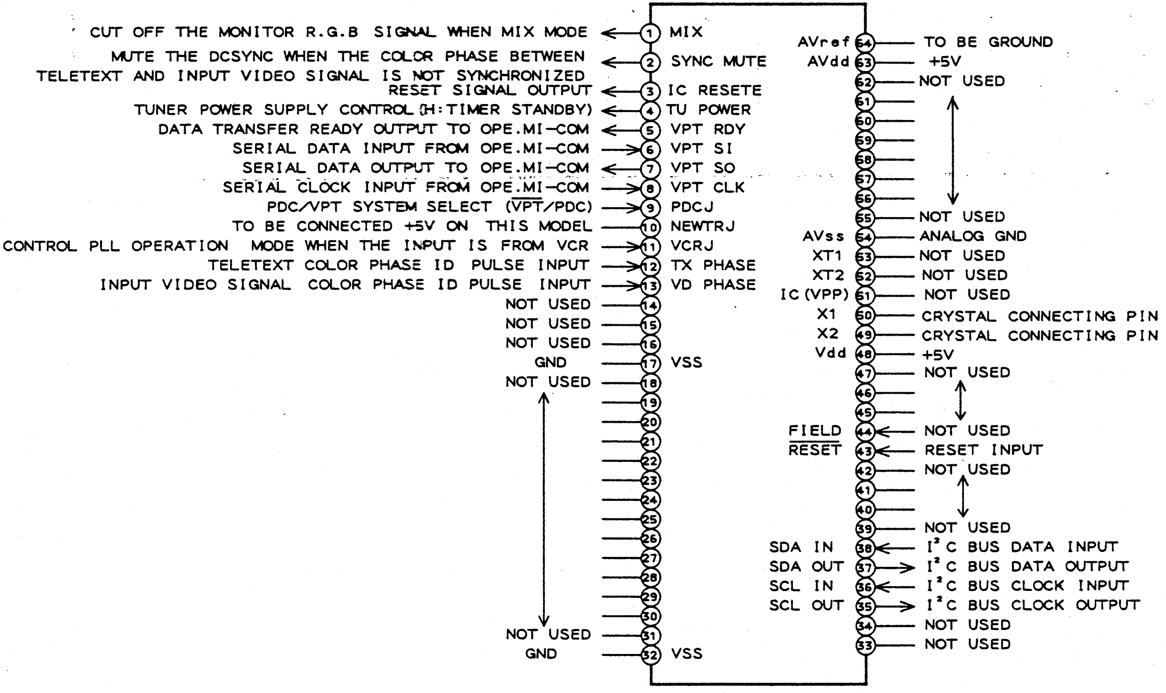
V53C464A (64 k x 4 BIT D-RAM)


$\overline{OE}$ 1
$\overline{WE}$ 4
$\overline{CAS}$ 16
$\overline{RAS}$ 5
$\overline{RAS}$ CLOCK GENERATOR
$\overline{CAS}$ CLOCK GANERATOR
$\overline{WE}$ CLOCK GENERATOR
$\overline{OE}$ CLOCK LOGIC
DATA I/O BUS
COLUMN DECODERS
SENSE AMPLIFIERS
I/O BUFFER
2 I/O 1
3 I/O 2
15 I/O 3
17 I/O 4
X_0–X_7
REFRESH COUNTER
8
256X4
A0~2
6
8
A3~7
10
14
ADDRESS BUFFERS AND PREDECODERS
X_0–X_7
ROW DECODERS
256
MEMORY ARRAY

µPD75217CW (OPERATION MI-COM)


FLD/KEY SEGMENT DRIVE OUTPUT
1 S3
2 S2
3 S1
4 S0
POWER.DOWN DET 5 P.DOWN
SERIAL CLOCK OUT FOR IMS 6 IMS.CLK
IMS SERIAL DATA OUT 7 IMS.SO
N.C 8 IMS.BUSY
REMOCON SIGNAL IN 9 REMOCON
AFT HIGH LEVEL INPUT 10 AFT-H
AFT LOW LEVEL INPUT 11 AFT-L
H PULSE FOR VIDEO JUDGE 12 H.SYNC
IMS STROBE SIGNAL OUT 13 IMS.STB
SYSCON SERIAL DATA OUT 14 SO
SYSCON CLOCK OUT 15 SYS.CLK
VPS CLOCK OUT 16 VPS.CLK
EEP ROM SERIAL CLOCK 17 EEP SCL
EEP ROM SERIAL DATA IN/OUT 18 EEP SDA
S-VHS TAPE DETECT SW 19 S-SW
N.C 20
KEY MATRIX OUT
21 P60
22 P61
23 P62
24 P63
SYSCON SERIAL DATA IN 25 SYS.SI
SERIAL DATA FROM VPS MI-COM 26 VPS.SI
SYSCON TRANSFER READY 27 SYS.RDY
VPS TRANSFER READY 28 VPS.RDY
TUNNING VOLTAGE OUTPUT 29 PWM
MAIN CLOCK
30 X1
31 X2
GND 32 VSS
VDD 64 +B
S4 63
S5 62
S6 61
S7 60
S8 59
S9 58
FLD/KEY SEGMENT DRIVE OUTPUT
V PRE 57 FLD DRIVE POWER SUPPLY
V LOAD 56 FLD PULL DOWN POWER SUPPLY
S10 55
S11 54
FLD/KEY SEGMENT DRIVE OUTPUT
BAND.A 53
BAND.B 52
BAND.C 51
TUNER BAND SELECTOR
T10 50 N.C
T9 49 N.C
T8 48 N.C
T7 47 N.C
T6 46 DIGIT DATA FOR FLD 1G
T5 45 DIGIT DATA FOR FLD 2G
T4 44 DIGIT DATA FOR FLD 3G
T3 43 DIGIT DATA FOR FLD 4G
T2 42 DIGIT DATA FOR FLD 5G
T1 41 DIGIT DATA FOR FLD 6G
T0 40 DIGIT DATA FOR FLD 7G
RESET 39 RESET INPUT
AFT 38 AFT CONTROL
TV/VCR 37 TV/VIDEO CONTROL
T.MUTE 36 TUNER MUTE CONTROL
RESET OUT 35 SYSTEM RESET OUTPUT
XT2 34
XT1 33
SUB CLOCK (TIME)

µPD78014QXVPT1 (VPT/PDC MI-COM)


CUT OFF THE MONITOR R.G.B SIGNAL WHEN MIX MODE 1 MIX
MUTE THE DCSYNC WHEN THE COLOR PHASE BETWEEN TELETEXT AND INPUT VIDEO SIGNAL IS NOT SYNCHRONIZED 2 SYNC MUTE
RESET SIGNAL OUTPUT 3 IC RESETE
TUNER POWER SUPPLY CONTROL (H:TIMER STANDBY) 4 TU POWER
DATA TRANSFER READY OUTPUT TO OPE.MI-COM 5 VPT RDY
SERIAL DATA INPUT FROM OPE.MI-COM 6 VPT SI
SERIAL DATA OUTPUT TO OPE.MI-COM 7 VPT SO
SERIAL CLOCK INPUT FROM OPE.MI-COM 8 VPT CLK
PDC/VPT SYSTEM SELECT (VPT/PDC) 9 PDCJ
TO BE CONNECTED +5V ON THIS MODEL 10 NEWTRJ
CONTROL PLL OPERATION MODE WHEN THE INPUT IS FROM VCR 11 VCRJ
TELETEXT COLOR PHASE ID PULSE INPUT 12 TX PHASE
INPUT VIDEO SIGNAL COLOR PHASE ID PULSE INPUT 13 VD PHASE
NOT USED 14
NOT USED 15
NOT USED 16
GND 17 VSS
NOT USED 18
19
20
21
22
23
24
25
26
27
28
29
30
NOT USED 31
GND 32 VSS
AVref 64 TO BE GROUND
AVdd 63 +5V
62 NOT USED
61
60
59
58
57
56
55 NOT USED
AVss 54 ANALOG GND
XT1 53 NOT USED
XT2 52 NOT USED
IC (VPP) 51 NOT USED
X1 50 CRYSTAL CONNECTING PIN
X2 49 CRYSTAL CONNECTING PIN
Vdd 48 +5V
47 NOT USED
46
45
FIELD 44 NOT USED
RESET 43 RESET INPUT
42 NOT USED
41
40
39 NOT USED
SDA IN 38 I²C BUS DATA INPUT
SDA OUT 37 I²C BUS DATA OUTPUT
SCL IN 36 I²C BUS CLOCK INPUT
SCL OUT 35 I²C BUS CLOCK OUTPUT
34 NOT USED
33 NOT USED